MATERIAL SAFETY DATA SHEETS

KAISER PERMANENTE LABORATORY

010232

EC Safety Data Sheet
According to EC-directive 93/112/EC

NucliSens Lysis Buffer

Unique code: | 284046 / | 284047 / | 284135 Date of last issue: 25/03/2002 Version: 5

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name and synonyms **NucliSens Lysis Buffer**
GUANIDINE THIOCYANATE (SOLUTION, AQUAOUS)

Company | bioMérieux B.V.
Boseind 15
5281 RM Boxtel
The Netherlands

Telephone number +31 (0)411 - 654911
Fax number +31 (0)411 - 654201

Emergency telephone **+31 (0)411 - 654321**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization
This product is to be considered a preparation.

Substance Class -

Formula -
Cas-number -
EC-number -
Annex-I-number -

Ingredients	Cas-number	Hazard symbols	R-phrases	Weight ratio
GUANIDINE THIOCYANATE	593-84-0	Xn	R20/21/22-R32	> 50 %
TRITON X-100	9002-93-1	Xn	R22-R41	> 1 %

3. HAZARDS IDENTIFICATION

Harmful in contact with skin and if swallowed. Contact with acids liberates very toxic gas.

010233

4. FIRST AID MEASURES

Routes of exposure	Ingestion and skin absorption.
Possible symptoms	Symptoms of exposure may include: nausea, vomiting.
Possible effects	Effects of overexposure: Harmful in contact with skin and if swallowed. May cause: irritation of the eyes. May cause: irritation of the skin. May cause: ataxia; spasm, coma, collapse, nervous system disturbances.
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	-
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.
Medical advice	If swallowed (and when followed by vomiting), there is danger of aspiration.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	Water, fire extinguishing powder, carbon dioxide or foam.
Non-suitable Extinguishing agents	None.
Hazardous decomposition or combustion products	Nitrous gases (NOx) Sulfurous gases (SOx)

Other information	Not combustible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes and clothing.
Environmental precautions	Isolate spill area. Do not allow to enter drains or water courses.
Methods for cleaning up	Collect as much as possible in a clean container for (preferable) reuse or disposal. Rinse remnant with plenty of water.

7. HANDLING AND STORAGE

Safe handling advice	Avoid contact with skin, eyes and clothing. Wash hands and/or face before taking a break or leaving work.
Measures to prevent fire and explosions	Not applicable.
Requirements for storage	Store at 2-8 °C . Store in brown coloured glass bottles which are closed with a screw cap fitted with polyethylene inlay.
Other information	Do not eat, drink or smoke in application area. Keep working clothes separately and do not take them home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Exposure limits	No exposure limit has been established.

Additional recommendation on technical system design

Technical measures	No specific recommendations.

Personal protection

Respiratory	No specific recommendations.
Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing,

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solution
Physical state	liquid
Colour	clear colourless
Odour	odourless
Boiling point/range	not determined
Melting point/range	not applicable
Flammability	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Explosive properties	lower: not applicable upper: not applicable
Explosion limits	lower: not applicable upper: not applicable
Vapour pressure	not applicable
Density	1.12 +/- .02 g/ml
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	

	not determined
Solubility in water	soluble
pH (quant.)	7.1 +/- .1
Partition coefficient	not determined
Viscosity	not determined
Oxidizing properties	not applicable
SADT	not determined
Specific conductivity	not determined

10. STABILITY AND REACTIVITY

Conditions to avoid

Contact with acids liberates very toxic gas.

Materials to avoid

Acid(s)

Hazardous decomposition products

None.

Stability

Stable under recommended storage and handling conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 oral
Dose No data available.
LD50 dermal

Dose	No data available.
LC50 inhalation	
Dose	No data available.
LD50 intraperitoneal mouse	
Dose	300 mg/kg
Inform. applies to	GUANIDINE THIOCYANATE

Acute toxicity (irritation, sensitisation etc.)

Irritation skin	
Results	No data available.
Irritation eye	
Results	No data available.
Irritation respiratory	
Results	No data available.
Sensitization	
Results	No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity	No data available.
Other information	RTECS No: XL1225000 (GUANIDINE THIOCYANATE).

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient
not determined

No data available.

Ecotoxicity

No data available.

Biochemical oxygen demand

No data available.

AOX

Concentration No data available.

13. DISPOSAL CONSIDERATIONS

Product
The product should not be allowed to enter drains and water courses. If discharged properly in low concentrations into adapted biological water treatment plants, disturbances in the degradation activity of active sludge are not to be expected. Waste disposal in accordance with regulations.

Contaminated packaging
Disposal on chemical waste dump site or by incineration according to Federal-, State- or Local laws.

Other information

Non-contaminated containers can be treated like domestic garbage. According to local regulations.

14. TRANSPORT INFORMATION

Transport/additional information

No dangerous good, according to national and international transport regulations.

15. REGULATORY INFORMATION

Classification EU directives and own criteria

Hazard symbol(s) (Xn) Harmful

Risk phrases
(R21/22) Harmful in contact with skin and if swallowed.
(R32) Contact with acids liberates very toxic gas.

Safety phrases
(S26) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
(S36/37) Wear suitable protective clothing and gloves.

Additional information

National regulations

16. OTHER INFORMATION

| Toxicity data and all other data are property of bioMérieux B.V.

| This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Date of Printing: 25/03/2002

EC Safety Data Sheet
According to EC-directive 93/112/EC

WASH BUFFER

Unique code: | 278394 / 271622 Date of last issue: 25/03/2002 Version: 3

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name and synonyms	**WASH BUFFER** NASBA WASBUFFER
Company	bioMérieux B.V. Boseind 15 5281 RM Boxtel The Netherlands
Telephone number	+31 (0)411 - 654911
Fax number	+31 (0)411 - 654201
Emergency telephone	**+31 (0)411 - 654321**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization
This product is to be considered a preparation.

Substance Class	-
Formula	-
Cas-number	-
EC-number	-
Annex-I-number	-

Ingredients	Cas-number	Hazard symbols	R-phrases	Weight ratio
GUANIDINE THIOCYANATE	593-84-0	Xn	R20/21/22-R32	62.6 % w/w

3. HAZARDS IDENTIFICATION

Harmful in contact with skin and if swallowed. Contact with acids liberates very toxic gas.

010241

4. FIRST AID MEASURES

Routes of exposure	Ingestion and skin absorption.
Possible symptoms	Symptoms of exposure may include: nausea, vomiting.
Possible effects	Effects of overexposure: Harmful in contact with skin and if swallowed. May cause: irritation of the eyes. May cause: irritation of the skin. May cause: ataxia; spasm, coma, collapse, nervous system disturbances.
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	-
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.
Medical advice	If swallowed (and when followed by vomiting), there is danger of aspiration.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	Water, fire extinguishing powder, carbon dioxide or foam.
Non-suitable Extinguishing agents	None.
Hazardous decomposition or combustion products	Nitrous gases (NOx) Sulfurous gases (SOx)
Other information	Not combustible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes and clothing.
Environmental precautions	Isolate spill area. Do not allow to enter drains or water courses.
Methods for cleaning up	Collect as much as possible in a clean container for (preferable) reuse or disposal. Rinse remnant with plenty of water.

7. HANDLING AND STORAGE

Safe handling advice	Avoid contact with skin, eyes and clothing. Wash hands and/or face before taking a break or leaving work.
Measures to prevent fire and explosions	Not applicable.
Requirements for storage	Store at 2-8 °C . Store in glass bottles which are closed with a screw cap fitted with polyethylene inlay.
Other information	Do not eat, drink or smoke in application area. Keep working clothes separately and do not take them home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Occupational exposure limits</u>

Exposure limits	No exposure limit has been established.

<u>Additional recommendation on technical system design</u>

Technical measures	No specific recommendations.

Personal protection

Respiratory	No specific recommendations.
Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing,

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	liquid
Physical state	solid
Colour	clear colourless
Odour	odourless
Boiling point/range	not determined
Melting point/range	not applicable
Flammability	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Explosive properties	lower: not applicable upper: not applicable
Explosion limits	lower: not applicable upper: not applicable
Vapour pressure	not applicable
Density	not determined
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	not determined
Solubility in water	soluble

pH (quant.)	No data available.
Partition coefficient	not determined
Viscosity	not determined
Oxidizing properties	not applicable
SADT	not determined
Specific conductivity	not determined

10. STABILITY AND REACTIVITY

Conditions to avoid

Contact with acids liberates very toxic gas.

Materials to avoid

Acid(s)

Hazardous decomposition products

None.

Stability

Stable under recommended storage and handling conditions.

11. TOXICOLOGICAL INFORMATION

<u>Acute toxicity</u>

LD50 oral
Dose No data available.
LD50 dermal
Dose No data available.
LC50 inhalation
Dose No data available.
LD50 intraperitoneal mouse

Dose	300 mg/kg
Inform. applies to	GUANIDINE THIOCYANATE

Acute toxicity (irritation, sensitisation etc.)

Irritation skin

Results	No data available.

Irritation eye

Results	No data available.

Irritation respiratory

Results	No data available.

Sensitization

Results	No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity	No data available.
Other information	RTECS No: XL1225000 (GUANIDINE THIOCYANATE).

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient
not determined

No data available.

Ecotoxicity

No data available.

Biochemical oxygen demand

No data available.

AOX

Concentration No data available.

13. DISPOSAL CONSIDERATIONS

Product
The product should not be allowed to enter drains and water courses. If discharged properly in low concentrations into adapted biological water treatment plants, disturbances in the degradation activity of active sludge are not to be expected. Waste disposal in accordance with regulations.

Contaminated packaging
Disposal on chemical waste dump site or by incineration according to Federal-, State- or Local laws.

Other information

Non-contaminated containers can be treated like domestic garbage. According to local regulations.

14. TRANSPORT INFORMATION

Transport/additional information

No dangerous good, according to national and international transport regulations.

15. REGULATORY INFORMATION

Classification EU directives and own criteria

Hazard symbol(s) (Xn) Harmful

Risk phrases
(R21/22) Harmful in contact with skin and if swallowed.
(R32) Contact with acids liberates very toxic gas.

Safety phrases
(S26) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
(S36/37) Wear suitable protective clothing and gloves.

Additional information

National regulations

16. OTHER INFORMATION

Toxicity data and all other data are property of bioMérieux B.V.

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

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Date of Printing: 25/03/2002

EC Safety Data Sheet
According to EC-directive 93/112/EC

BASIC KIT ACCUSPHERE DILUENT

Unique code: | 270352 Date of last issue: 25/03/2002 Version: 4

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name	**BASIC KIT ACCUSPHERE DILUENT**
and synonyms	NASBA BASIC KIT ACCUSPHERE DILUENT, REAGENT SPHERE DILUENT
Company	bioMérieux B.V. Boseind 15 5281 RM Boxtel The Netherlands
Telephone number	+31 (0)411 - 654911
Fax number	+31 (0)411 - 654201
Emergency telephone	**+31 (0)411 - 654321**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization
This product is to be considered a preparation.

Substance Class	-
Formula	-
Cas-number	-
EC-number	-
Annex-I-number	-

Ingredients	**Cas-number**	**Hazard symbols**	**R-phrases**	**Weight ratio**
TROMETHAMINE	77-86-1	Xi	R36/37/38	1 % w/w
DIMETHYLSULFOXYDE	67-68-5	Xi	R36/37/38	approx. 45 % w/w

3. HAZARDS IDENTIFICATION

Irritating to eyes, respiratory system and skin.

010249

4. FIRST AID MEASURES

Routes of exposure	Ingestion and skin absorption.
Possible symptoms	Symptoms of exposure may include: nausea, vomiting.
Possible effects	Effects of overexposure: Harmful in contact with skin and if swallowed. May cause: irritation of the eyes. May cause: irritation of the skin. May cause: ataxia; spasm, coma, collapse, nervous system disturbances.
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	-
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.
Medical advice	If swallowed (and when followed by vomiting), there is danger of aspiration.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	Water, fire extinguishing powder, carbon dioxide or foam.
Non-suitable Extinguishing agents	None.
Hazardous decomposition or combustion products	Nitrous gases (NOx) Sulfurous gases (SOx)
Other information	Not combustible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes and clothing.
Environmental precautions	Isolate spill area. Do not allow to enter drains or water courses.
Methods for cleaning up	Collect as much as possible in a clean container for (preferable) reuse or disposal. Rinse remnant with plenty of water.

7. HANDLING AND STORAGE

Safe handling advice	Avoid contact with skin, eyes and clothing. Wash hands and/or face before taking a break or leaving work.
Measures to prevent fire and explosions	Not applicable.
Requirements for storage	Store at -20 °C .
Other information	Do not eat, drink or smoke in application area. Keep working clothes separately and do not take them home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Exposure limits No exposure limit has been established.

Additional recommendation on technical system design

Technical measures No specific recommendations.

Personal protection

Respiratory	No specific recommendations.
Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing,

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solution
Physical state	liquid
Colour	clear colourless
Odour	odourless
Boiling point/range	not determined
Melting point/range	not applicable
Flammability	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Explosive properties	lower: not applicable upper: not applicable
Explosion limits	lower: not applicable upper: not applicable
Vapour pressure	not applicable
Density	not determined
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	not determined
Solubility in water	soluble
pH (quant.)	8.5 +/- .2
Partition coefficient	

	not determined
Viscosity	not determined
Oxidizing properties	not applicable
SADT	not determined
Specific conductivity	not determined

10. STABILITY AND REACTIVITY

Conditions to avoid

None.

Materials to avoid

None.

Hazardous decomposition products

None.

Stability

Stable under recommended storage and handling conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 oral
Dose No data available.
LD50 dermal
Dose No data available.
LC50 inhalation
Dose No data available.
LD50 oral rat
Dose 14.5 g/kg
Inform. applies to DIMETHYLSULFOXYDE

Acute toxicity (irritation, sensitisation etc.)

Irritation skin
Results No data available.
Irritation eye
Results No data available.
Irritation respiratory
Results No data available.
Sensitization
Results No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity No data available.

Other information RTECS No: PV6210000 (METHYLSULFOXIDE)

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient
not determined

No data available.

Ecotoxicity

No data available.

Biochemical oxygen demand

No data available.

AOX

Concentration No data available.

13. DISPOSAL CONSIDERATIONS

Product
The product should not be allowed to enter drains and water courses. If discharged properly in low concentrations into adapted biological water treatment plants, disturbances in the degradation activity of active sludge are not to be expected. Waste disposal in accordance with regulations.

Contaminated packaging
Disposal on chemical waste dump site or by incineration according to Federal-, State- or Local laws.

Other information

Non-contaminated containers can be treated like domestic garbage. According to local regulations.

14. TRANSPORT INFORMATION

Transport/additional information

No dangerous good, according to national and international transport regulations.

15. REGULATORY INFORMATION

Classification EU directives and own criteria

Hazard symbol(s) (Xi) Irritant

Risk phrases
(R36/37/38) Irritating to eyes, respiratory system and skin.

Safety phrases
(S23) Do not breathe vapour.
(S26) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
(S36/37) Wear suitable protective clothing and gloves.

Additional information

National regulations

16. OTHER INFORMATION

| Toxicity data and all other data are property of bioMérieux B.V.

| This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

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Date of Printing: 25/03/2002

EC Safety Data Sheet
According to EC-directive 93/112/EC

BASIC KIT – POSITIVE CONTROLE RNA LIQUID

Unique code: | 270368 Date of last issue: 25/03/2002 Version: 3

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name and synonyms BASIC KIT - POSITIVE CONTROLE RNA LIQUID

Company | bioMérieux B.V.
Boseind 15
5281 RM Boxtel
The Netherlands

Telephone number +31 (0)411 - 654911
Fax number +31 (0)411 - 654201

Emergency telephone +31 (0)411 - 654321

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization
This product is to be considered a preparation.

Substance Class -

Formula -
Cas-number -
EC-number -
Annex-I-number -

Ingredients	Cas-number	Hazard symbols	R-phrases	Weight ratio
GUANIDINE THIOCYANATE	593-84-0	Xn	R20/21/22-R32	>= 45 .. < 50 % w/w
TRITON X-100	9002-93-1	Xn	R22-R41	>= 1 .. < 1.5 % w/w

3. HAZARDS IDENTIFICATION

Harmful in contact with skin and if swallowed. Contact with acids liberates very toxic gas.

010257

4. FIRST AID MEASURES

Routes of exposure	Ingestion and skin absorption.
Possible symptoms	Symptoms of exposure may include: nausea, vomiting.
Possible effects	Effects of overexposure: Harmful in contact with skin and if swallowed. May cause: irritation of the eyes. May cause: irritation of the skin. May cause: ataxia; spasm, coma, collapse, nervous system disturbances.
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	-
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.
Medical advice	If swallowed (and when followed by vomiting), there is danger of aspiration.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	Water, fire extinguishing powder, carbon dioxide or foam.
Non-suitable Extinguishing agents	None.
Hazardous decomposition or combustion products	Nitrous gases (NOx) Sulfurous gases (SOx)
Other information	Not combustible.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes and clothing.
Environmental precautions	Isolate spill area. Do not allow to enter drains or water courses.
Methods for cleaning up	Collect as much as possible in a clean container for (preferable) reuse or disposal. Rinse remnant with plenty of water.

7. HANDLING AND STORAGE

Safe handling advice	Avoid contact with skin, eyes and clothing. Wash hands and/or face before taking a break or leaving work.
Measures to prevent fire and explosions	Not applicable.
Requirements for storage	Store at -20 °C .
Other information	Do not eat, drink or smoke in application area. Keep working clothes separately and do not take them home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Exposure limits No exposure limit has been established.

Additional recommendation on technical system design

Technical measures No specific recommendations.

Personal protection

Respiratory	No specific recommendations.
Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing,

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solution
Physical state	liquid
Colour	clear colourless
Odour	odourless
Boiling point/range	not determined
Melting point/range	not applicable
Flammability	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Explosive properties	lower: not applicable upper: not applicable
Explosion limits	lower: not applicable upper: not applicable
Vapour pressure	not applicable
Density	not determined
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	not determined
Solubility in water	soluble
pH (quant.)	No data available.

Partition coefficient	not determined
Viscosity	not determined
Oxidizing properties	not applicable
SADT	not determined
Specific conductivity	not determined

10. STABILITY AND REACTIVITY

Conditions to avoid

Contact with acids liberates very toxic gas.

Materials to avoid

Acid(s)

Hazardous decomposition products

None.

Stability

Stable under recommended storage and handling conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 oral
Dose No data available.
LD50 dermal
Dose No data available.
LC50 inhalation
Dose No data available.
LD50 intraperitoneal mouse
Dose 300 mg/kg
Inform. applies to GUANIDINE THIOCYANATE

Acute toxicity (irritation, sensitisation etc.)

Irritation skin
Results No data available.
Irritation eye
Results No data available.
Irritation respiratory
Results No data available.
Sensitization
Results No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity No data available.

Other information RTECS No: XL1225000 (GUANIDINE THIOCYANATE).

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient
not determined

No data available.

Ecotoxicity

No data available.

Biochemical oxygen demand

No data available.

AOX

Concentration No data available.

13. DISPOSAL CONSIDERATIONS

Product
The product should not be allowed to enter drains and water courses. If discharged properly in low concentrations into adapted biological water treatment plants, disturbances in the degradation activity of active sludge are not to be expected. Waste disposal in accordance with regulations.

Contaminated packaging
Disposal on chemical waste dump site or by incineration according to Federal-, State- or Local laws.

Other information

Non-contaminated containers can be treated like domestic garbage. According to local regulations.

14. TRANSPORT INFORMATION

Transport/additional information

No dangerous good, according to national and international transport regulations.

15. REGULATORY INFORMATION

Classification EU directives and own criteria

Hazard symbol(s) (Xn) Harmful

Risk phrases
(R21/22) Harmful in contact with skin and if swallowed.
(R32) Contact with acids liberates very toxic gas.

Safety phrases
(S26) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
(S36/37) Wear suitable protective clothing and gloves.

Additional information

National regulations

16. OTHER INFORMATION

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| This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

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Date of Printing: 25/03/2002

EC Safety Data Sheet
According to EC-directive 93/112/EC

NucliSens Cleaning Solution

Unique code: | 284106 / Date of last issue: 25/03/2002 Version: 2

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name and synonyms	**NucliSens Cleaning Solution**
Company	bioMérieux B.V. Boseind 15 5281 RM Boxtel The Netherlands
Telephone number	+31 (0)411 - 654911
Fax number	+31 (0)411 - 654201
Emergency telephone	**+31 (0)411 - 654321**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization
This product is to be considered a preparation.

Substance Class	-
Formula	-
Cas-number	-
EC-number	-
Annex-I-number	-

Ingredients	Cas-number	Hazard symbols	R-phrases	Weight ratio
POTASSIUM HYDROXIDE	1310-58-3	C	R35	< 5 % w/w

3. HAZARDS IDENTIFICATION

Causes burns.

010265

4. FIRST AID MEASURES

Routes of exposure	Inhalation, ingestion, skin absorption.
Possible symptoms	Symptoms of exposure may include: abdominal pain, coughing, gastro-intestinal complaints, nausea, severe irritation.
Possible effects	No typical symptoms and effects known
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Consult a physician immediately.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	Remove to fresh air, keep victim warm and at rest.
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	All extinguishing products are allowed.
Non-suitable Extinguishing agents	None.
Additional information	Not combustible.
Hazardous decomposition or combustion products	None.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes and clothing. No specific recommendations.
Environmental precautions	Isolate spill area. Do not allow to enter drains or water courses.
Methods for cleaning up	Absorb with inert absorbent (Chemsorb). Collect as much as possible in a clean container for (preferable) reuse or disposal. Rinse remnant with plenty of water.

7. HANDLING AND STORAGE

Safe handling advice	Avoid contact with skin, eyes and clothing. Wash hands and/or face before taking a break or leaving work.
Measures to prevent fire and explosions	Not applicable.
Requirements for storage	Store in tightly closed containers, at 2-8 °C .
Additional information	Do not eat, drink or smoke in application area. Keep working clothes separately and do not take them home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

MAC (NL) POTASSIUM HYDROXIDE
TWA-8 hours 2 mg/m3

Additional recommendation on technical system design

Technical measures No specific recommendations.

Personal protection

Respiratory No specific recommendations.

Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solution
Physical state	liquid
Colour	clear
Odour	odourless
Boiling point/range	not available
Flammability	not applicable
Melting point/range	not available
Flash point	not determined
Auto-ignition temperature	not determined
Explosive properties	lower: not applicable upper: not applicable
Vapour pressure	not determined
Density (specific gravity)	not determined
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	not determined
Solubility in water	Completely miscible
pH (quant.)	not determined
Partition coefficient	not applicable

Viscosity	not determined
Oxidizing properties	not applicable
SADT	not applicable
Specific conductivity	not determined

10. STABILITY AND REACTIVITY

Conditions to avoid

None.

Materials to avoid

Acid(s)

Hazardous decomposition products

None.

Stability

Stable under recommended storage and handling conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 oral	
Dose	No data available.
LD50 dermal	
Dose	No data available.
LC50 inhalation	
Dose	No data available.
LD50 intraperitoneal	
Dose	No data available.

Acute toxicity (irritation, sensitisation etc.)

Irritation skin
Results Corrosive.
Irritation eye
Results Corrosive.
Irritation respiratory
Results Corrosive.
Sensitization
Results No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity No data available.

Other information No data available.

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient
not applicable

No data available.

Ecotoxicity

No data available.

Biochemical oxygen demand

No data available.

AOX

Concentration	No data available.

13. DISPOSAL CONSIDERATIONS

Product
The product should not be allowed to enter drains and water courses. If discharged properly in low concentrations into adapted biological water treatment plants, disturbances in the degradation activity of active sludge are not to be expected. Waste disposal in accordance with regulations.

Contaminated packaging
Disposal on chemical waste dump site or by incineration according to Federal-, State- or Local laws.

Other information

Non-contaminated containers can be treated like domestic garbage. According to local regulations.

14. TRANSPORT INFORMATION

Road transport ADR/RID

Class	8
Number/letter	42c
Hazard identification no.	80
UN-number	1814
Technical name	POTASSIUM HYDROXIDE, SOLUTION NucliSens Cleaning Solution

Maritime transport IMDG

Class	8
UN-number	1814
Packing group	III
Marine pollutant	no
Proper shipping name	POTASSIUM HYDROXIDE, SOLUTION NucliSens Cleaning Solution

Air transport ICAO/IATA

Class	8
UN/ID-number	1814

Packing group	III
Proper shipping name	POTASSIUM HYDROXIDE, SOLUTION NucliSens Cleaning Solution

15. REGULATORY INFORMATION

Classification EU directives and own criteria

Hazard symbol(s) (C) Corrosive

Risk phrases
(R34) Causes burns.

Safety phrases
(S26) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
(S36/37/39) Wear suitable protective clothing, gloves and eye/face protection.
(S45) In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Additional information

National regulations

WGK (Germany) NOT APPLICABLE

16. OTHER INFORMATION

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Date of Printing: 25/03/2002

hc2 HPV/CT/GC

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1	Identification of the Product:	**DENATURATION REAGENT** REAG DENAT
1.2	Company/Undertaking Identification:	Digene Corporation 1201 Clopper Road Gaithersburg, MD 20878
1.3	Emergency Tel. No:	Domestic (U.S.) +301-944-7000 (8:30 AM – 5 PM Eastern M-F) International (U.K.) +44 (20) 7348 3500 (9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	Symbol(s)	EC	R-Phrases
Sodium hydroxide	1310-73-2	<8	C (Corrosive)		35
Water		Up to 100	-		-

3 HAZARDS IDENTIFICATION

DANGER!
Corrosive – causes severe burns. Corrosive to all tissues contacted.

4 FIRST AID MEASURES

Carefully remove contaminated clothing - launder before re-use.

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. Keep patient calm. Seek medical advice.

In case of inhalation - Remove to fresh air. Keep patient calm. Seek medical advice; symptomatic treatment.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. Keep patient calm and seek medical advice.

In case of contact with skin - Wash with plenty of water and seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1	Extinguishing media:	Suitable-	Aqueous solution, will not burn. Use extinguishing media suitable for the surrounding fire.
		Not suitable-	None identified
5.2	If involved in a fire:	If vials are broken, wear breathing apparatus and protective clothing for Alkaline corrosive liquid.	

6 ACCIDENTAL RELEASE MEASURES

Observe any warning labels on the container (see Sections 14 and 15). Take precautions to avoid exposure (See Section 8).

Contain any spilled material immediately with dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or laboratory Hood/ fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Personal exposure must be controlled to conform to local/national regulations (see Section 16). If this is not possible, respiratory protection must be worn.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, wear safety glasses with side shields; goggles or eye/face shield may be needed if splashing may occur or handled in significant quantities

8.4 Skin: At a minimum, wear a lab coat. Other overgarment (e.g., sleeve covers or tyvek clothing) may be needed if splashing may occur or handled in significant quantities.

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Clear liquid	9.2 Odour:	None
9.3 pH:	>13		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not flammable		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not explosive		
9.10 Oxidising properties:	Not oxidising	9.11 Vapour pressure:	As water vapour
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient[2]: Log $P_{o/w}$ (Octanol/water) < 3

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with acids.

10.3 Hazardous decomposition products: None.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested, but based on its components and the application of the EU "conventional method", it is expected to corrosive and cause severe burns to the eyes, skin and mucous membranes

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested, but based on its components and the application of the EU "conventional method", it is not expected to be harmful to aquatic systems, unless directly discharged without further treatment.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.
European Hazard Code H8 (corrosive). Therefore waste is considered "hazardous waste" if it contains ≥ 1% of this product; European Waste Catalogue Index No. 18 01 05.

14 TRANSPORT INFORMATION

Proper Shipping Name: SODIUM HYDROXIDE SOLUTION

UN No.:	1824	Symbol: Corrosive	
Hazard Class:	8	Packing Group:	II
ADR/RID Item No:	42(b)	HIN: 80	EAC: 2R
IATA/DGR limits:	Passenger - 1 litre (0.5 litre, non-UN packs) Cargo - 30 litre		ERG No.: 8L
IMDG/IMO Code:	8226	EmS: 8-06	MFAG: 705
Tremcard No:	52		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
Sodium hydroxide	011-002-00-6

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and OSHA hazard communication regulations and labelled as below:

DENATURATION REAGENT REAG DENAT
(Contains sodium hydroxide)
WARNING!

Warning symbol(s) - Corrosive (C)

Warning words - CORROSIVE

Risk phrases -
R35: Causes severe burns

Safety Phrases -
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection
S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)

US - Target organs under hazard communication regulations: Corrosive to all tissues contacted.

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m^3)	Short-term	Reference
Sodium hydroxide	2		US OSHA PEL
	-	2 (15-min)	UK, Ireland
	2 (ceiling)	-	Denmark, Norway Sweden, Finland, France, Holland, US-ACGIH and US-NIOSH
	2	2 (15-min)	Greece
	2	4 (5-min)	Switzerland
	"Data not adequate"		Germany

Inventories - All components are listed in TSCA and EINECS inventories
Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.
Revisions - The latest information changes are marked with | in the left margin
References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

hc2 HPV

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **HPV DNA Target 1**

1.2 Company/Undertaking Identification: Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No: Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Aliphatic amine hydrochloride	Proprietary	<10	Xn (Harmful)	22-36/38
DNA Plasmid*	-	<0.1	None	Not applicable
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Other components* & water	-	Up to 100	-	-

*These components are at concentrations that do not meet EU or US OSHA criteria for classifying as dangerous or hazardous, respectively, under these regulations.

3 HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. If concerned, seek medical advice.

In case of inhalation - Remove to fresh air. If concerned, seek medical advice.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. If concerned, seek medical advice.

In case of contact with skin - Wash with plenty of water. If concerned, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media: Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None

5.2 If involved in a fire: If vials are broken and contents dry out, will burn and may give off noxious fumes (e.g. mainly carbon and nitrogen oxides and some chlorinated compounds). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Contain any spilled material immediately with paper towel or dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or a laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Not normally required for this product.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if there is danger of splashing, or if handled in significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if there is danger of splashing or if handled in significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Clear liquid	9.2 Odour:	Not determined
9.3 pH:	approx. 8		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12
9.14 Solubility:	Water - Miscible in all proportions Fat (type) - Not determined Other solvents - Miscible in most polar solvents		
9.15 Partition coefficient[2]:	Log $P_{o/w}$ (Octanol/water) - Not determined		
9.16 Other data:	None relevant to safety		

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with oxidising agent and strong bases.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested, but based on its components and the application of the EU "conventional method", it is not classified as "dangerous". However, it has not been fully tested, so precautions should be taken to avoid exposure.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorized as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not dispose of waste down the drain. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
Aliphatic amine hydrochloride	Proprietary

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and labelled as below:

HPV DNA Target 1

Warning symbol(s)	-	None
Warning words	-	None
Risk phrases	-	None
Safety Phrases	-	None

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m^3)	Short-term	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - All components are listed in TSCA and EINECS inventories

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

hc2 HPV

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **HPV DNA Targets 2-6**

1.2 Company/Undertaking Identification: Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No: Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Aliphatic amine hydrochloride	Proprietary	<10	Xn (Harmful)	22-36/38
DNA Plasmid*	-	<0.1	None	Not applicable
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Other components* & water	-	Up to 100	-	-

*These components are at concentrations that do not meet EU or US OSHA criteria for classifying as dangerous or hazardous, respectively, under these regulations.

3 HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. If concerned, seek medical advice.

In case of inhalation - Remove to fresh air. If concerned, seek medical advice.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. If concerned, seek medical advice.

In case of contact with skin - Wash with plenty of water. If concerned, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:
Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None

5.2 If involved in a fire: If vials are broken, will burn and may give off noxious fumes (e.g. mainly carbon and nitrogen oxides and some chlorinated compounds). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Contain any spilled material immediately with paper towel or dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or a laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Not normally required for this product.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if there is danger of splashing, or if handled in significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if there is danger of splashing or if handled in significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Clear liquid	9.2 Odour:	Not determined
9.3 pH:	approx. 8		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient[2]: Log $P_{o/w}$ (Octanol/water) - Not determined

9.16 Other data: None relevant to safety

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with oxidising agent and strong bases.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested, but based on its components and the application of the EU "conventional method", it is not classified as "dangerous". However, it has not been fully tested, so precautions should be taken to avoid exposure.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorized as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not dispose of waste down the drain. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
Aliphatic amine hydrochloride	Proprietary

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and labelled as below:

HPV DNA Targets 2-6

Warning symbol(s)	-	None
Warning words	-	None
Risk phrases	-	None
Safety Phrases	-	None

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m^3)	Short-term	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - All components are listed in TSCA and EINECS inventories

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

1. IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **DETECTION REAGENT 1** REAG | DET | 1

1.2 Company/Undertaking Identification: Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878, USA

1.3 Emergency Tel. No: Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Organic buffer hydrochloride	Proprietary	<10	Xi (Irritant)	36/37/38
Proprietary albumin	Proprietary	<6	Not hazardous	Not applicable
Glycoside derivative	Proprietary	<5	Not hazardous	Not applicable
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Other components* & water	-	Up to 100	-	-

*These components are at either concentrations that do not meet EU or US OSHA criteria for classifying as dangerous or hazardous, respectively, under these regulations or do not meet EU or OSHA criteria for hazardous or dangerous under the regulations.

3 HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product and testing of the product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. If concerned, seek medical advice.

In case of inhalation - Remove to fresh air. If concerned, seek medical advice.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. If concerned, seek medical advice.

In case of contact with skin - Wash with plenty of water. If irritation persists or develops, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media: Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None

5.2 If involved in a fire: If vials are broken and contents are allowed to dry out, will burn and may give off noxious fumes (e.g. mainly carbon and nitrogen oxides and some chlorinated compounds). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Take precautions to avoid exposure (See Section 8).

Contain any spilled material immediately with dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Personal exposure must be controlled to conform to local/national regulations (see Section 16). If this is not possible, respiratory protection must be worn.

8.2 Hand: Chemical resistant gloves

8.3 Eye: As a minimum, safety glasses with side shield are required; goggles or eye/face shield may be needed if splashing may occur or if handling significant quantities.

8.4 Skin: As a minimum, a laboratory coat is needed; other protective overgarments (e.g. sleeve covers or tyvek garments) may be needed if splashing may occur or if handling significant quantities.

9 PHYSICAL AND CHEMICAL PROPERTIES (1)

9.1 Appearance:	Red liquid	9.2 Odour:	None
9.3 pH:	7.4, approx.		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined (aqueous solution)		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient(2): Log $P_{o/w}$ (Octanol/water) = not determined

9.16 Other data: None relevant to safety

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with strong acids or alkalis.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, and some chlorinated products, may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects
Eye irritation - Not considered an irritant based on studies in laboratory animals
Skin irritation – Not considered a skin irritant based on studies in laboratory animals.
Skin sensitisation – Caused a mild skin reaction in some animals in the Magnusson-Kligman guinea pig maximisation assay that did not fully meet the criteria for labelling or warning as a skin sensitiser under EU criteria.
Based on its components and the application of the EU "conventional method", it is not considered acutely toxic under EU directives or the OSHA hazard communication regulations. However, it has not been fully tested, so precautions should be taken to avoid exposure.

Chronic effects [2,3]
No known chronic effects known based on percentages of components in product formulation.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorised as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not dispose of waste down the drain. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
None at concentrations that are considered "dangerous" under the Directive	

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and US hazard communication regulations (29 CFR 1910.1200) and labelled as below:

DETECTION REAGENT 1 REAG DET 1

Warning symbol(s)	-	None required
Warning words	-	None required
Risk phrases	-	None required
Safety Phrases	-	None required

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA	mg/m^3 Short-term	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - The glycoside derivative is not listed under EINECs.

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

hc2 HPV/CT/GC

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **DETECTION REAGENT 2** REAG DET 2

1.2 Identification of Company

Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No:

Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	Symbol(s)	EC R-Phrases
Water soluble dioxetene	Proprietary	<1	Xi (Irritant)	36/37/38
Fluorescein	518-47-8	<1	Xi (Irritant)	36/37/38
Alcohol amine	Proprietary	<1	Xi (Irritant)	36/37/38
Other components* & water	-	Up to 100	-	-

* Other ingredients are not considered dangerous or hazardous under EU or OSHA regulations, respectively

3 HAZARDS IDENTIFICATION

Based on testing of the product mixture, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. If concerned, seek medical advice.

In case of inhalation - Remove to fresh air. If concerned, seek medical advice.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. If concerned, seek medical advice.

In case of contact with skin - Wash with plenty of water. If concerned, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.

Not suitable- None

5.2 If involved in a fire: If vials are broken and contents allowed to dry out, will burn and may give off noxious fumes (e.g. mainly carbon and nitrogen oxides and some chlorinated compounds). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Observe any warning labels on the container (see Sections 14 and 15). Take precautions to avoid exposure (See Section 8).

Contain any spilled material immediately with paper towel, dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Not normally required for this product.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if splashing may occur or handling significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if splashing may occur or handling significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Clear liquid	9.2 Odour:	Not determined
9.3 pH:	8.4, approx.		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9,6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	1.0, approx.	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient[2]: Log $P_{o/w}$ (Octanol/water) - Not determined

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with oxidising agent and strong bases.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects
Acute oral toxicity of product mixture in rats: LD50 > 2000 mg/kg.
Acute dermal toxicity of product/mixture in rabbits: LD50 > 2000 mg/kg
Acute dermal irritation of product /mixture in rabbits: Not an irritant under EU criteria
Acute eye irritation of product/mixture in rabbits: Not an irritant under EU criteria

Chronic effects
No known chronic effects reported.

Mutagenicity
Product is not mutagenic in the Ames Salmonella gene mutation assay.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

This product is not considered a hazardous waste. Waste is classified in the EU European Waste Catalogue Index No. 18 01. 07 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 07 = chemicals not containing dangerous substances).

Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
None	-

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and labelled as below:-

DETECTION REAGENT 2 | REAG | DET | 2 |

Warning symbol(s)	-	None required
Warning words	-	None required
Risk phrases	-	None required
Safety Phrases	-	None required

16 OTHER INFORMATION

Occupational Exposure Levels - None listed

Inventories - The proprietary reagent is not listed under TSCA or EINECS inventories

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC or US CMA/ANSI guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

hc2 HPV

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product:

LOW-RISK HPV CALIBRATOR CAL | HPV | LOW RISK
HIGH-RISK HPV CALIBRATOR CAL | HPV | HIGH RISK
LOW-RISK HPV QUALITY CONTROL QC | HPV | LOW RISK
HIGH-RISK HPV QUALITY CONTROL QC | HPV | HIGH RISK

1.2 Company/Undertaking Identification:

Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No:

Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Aliphatic amine hydrochloride	Proprietary	<10	Xn (Harmful)	22-36/38
DNA Plasmid*	-	<0.1	None	Not applicable
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Other components* & water	-	Up to 100	-	-

*These components are at concentrations that do not meet EU or US OSHA criteria for classifying as dangerous or hazardous, respectively, under these regulations.

3 HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. If concerned, seek medical advice.

In case of inhalation - Remove to fresh air. If concerned, seek medical advice.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. If concerned, seek medical advice.

In case of contact with skin - Wash with plenty of water. If concerned, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:

Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.

Not suitable- None

5.2 If involved in a fire: If vials are broken, will burn and may give off noxious fumes (e.g. mainly carbon and nitrogen oxides and some chlorinated compounds). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Contain any spilled material immediately with paper towel or dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or a laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Not normally required for this product.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if there is danger of splashing, or if handled in significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if there is danger of splashing or if handled in significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES (1)

9.1 Appearance: Clear liquid

9.2 Odour: Not determined

9.3 pH: approx. 8

9.4 Boiling Pt./range: >100°C.

9.5 Melting Pt./range: < 0°C.

9.6 Flash point: Not determined

9.7 Flammability: See 9.6

9.8 Autoflammability: See 9.6

9.9 Explosive properties: Not determined

9.10 Oxidising properties: Not determined

9.11 Vapour pressure: Not determined

9.12 Relative density: Not determined

9.13 Bulk density: See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient(2): Log $P_{o/w}$ (Octanol/water) - Not determined

9.16 Other data: None relevant to safety

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with oxidising agent and strong bases.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested, but based on its components and the application of the EU "conventional method", it is not classified as "dangerous". However, it has not been fully tested, so precautions should be taken to avoid exposure.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorized as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not dispose of waste down the drain. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
Aliphatic amine hydrochloride	Proprietary

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and labelled as below:

LOW-RISK HPV CALIBRATOR	CAL	HPV	LOW RISK
HIGH-RISK HPV CALIBRATOR	CAL	HPV	HIGH RISK
LOW-RISK HPV QUALITY CONTROL	QC	HPV	LOW RISK
HIGH-RISK HPV QUALITY CONTROL	QC	HPV	HIGH RISK

Warning symbol(s)	-	None
Warning words	-	None
Risk phrases	-	None
Safety Phrases	-	None

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m^3)	Short-term	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - All components are listed in TSCA and EINECS inventories

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **LOW-RISK HPV PROBE** LOW RISK | HPV | PROBE
HIGH-RISK HPV PROBE HIGH RISK | HPV | PROBE

1.2 Company/Undertaking Identification:
Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No:
Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U. K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Alkyl sulfate salt	Proprietary	<1	Xn (Harmful)	20/22-38-41-42
DNA Plasmids*	Not available	<0.01	Not hazardous	Not applicable
Other components* & water	-	Up to 100	-	-

*These components are at concentrations less than 1% that do not contribute to the hazard classification of this compound under EU or OSHA hazard communication regulations

3 HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. Keep patient calm. Seek medical advice.

In case of inhalation - Remove to fresh air. Keep patient calm. Seek medical advice; symptomatic treatment.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. Keep patient calm and seek medical advice.

In case of contact with skin - Wash with plenty of water and seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:
Suitable- Will not burn unless dried out. Use water jets to cool drums. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None

5.2 If involved in a fire:
If vials are broken and contents are allowed to dry out, will burn and may give off noxious fumes (e.g. carbon, nitrogen and sulphur oxides, and some chlorinated products). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Contain any spilled material immediately with paper towels, dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or a laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Personal exposure must be controlled to conform to local/national regulations (see Section 16). If this is not possible, respiratory protection must be worn.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, wear safety glasses with side shields; goggles or eye/face shield may be needed if splashing is to occur or handled in significant quantities

8.4 Skin: At a minimum, wear a lab coat; other overgarment (e.g., sleeve covers or tyvek clothing) may be needed if splashing is to occur or handled in significant quantities.

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Clear, viscous liquid	9.2 Odour:	None
9.3 pH:	7.6, approx.		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined (aqueous solution)		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient[2]: Log $P_{o/w}$ (Octanol/water) = not determined

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with strong acids or alkalis.

10.3 Hazardous decomposition products:
Mainly carbon, nitrogen and sulphur oxides, and some chlorinated products, may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested. Based on its components and the application of the EU "conventional method", it is not considered dangerous under EU directives.

Chronic effects [2,3]
Not expected to cause effects based on percentages of hazardous ingredients and water in product formulation.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorised as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not dispose of down the drain. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
None (at concentrations prescribed under the Directive)	Not applicable

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and the US OSHA hazard communication standard and labelled as below:

LOW-RISK HPV PROBE	LOW RISK	HPV	PROBE
HIGH-RISK HPV PROBE	HIGH RISK	HPV	PROBE

Warning symbol(s)	-	None applicable
Warning words	-	None applicable
Risk phrases	-	None applicable
Safety Phrases	-	None applicable

16 OTHER INFORMATION

Occupational Exposure Levels - None applicable

Inventories - All components are listed in TSCA and EINECS inventories

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

hc2 HPV/CT/GC

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **INDICATOR DYE** INDIC

1.2 Company/Undertaking Identification: Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No: Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Dye*	Proprietary	0.5 -2%	Xn	20/21/22-36/38
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Water	7732-18-5	Up to 100	-	-

*These components are at concentrations that do not cause the formulated product to be classified as dangerous under EU regulations or hazardous under OSHA hazard communication regulations

3 HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. Keep patient calm. Seek medical advice.

In case of inhalation - Remove to fresh air. Keep patient calm. Seek medical advice; symptomatic treatment.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. Seek medical advice.

In case of contact with skin - Wash with plenty of water. If irritation persists or develops, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media: Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None identified

5.2 If involved in a fire: If vials are broken and contents are allowed to dry, will burn and may give off toxic gases (e.g. carbon and nitrogen oxides) Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Observe any warning labels on the container (see Sections 14 and 15). Take precautions to avoid exposure (See Section 8).

Contain any spilled material immediately with paper towels, dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or laboratory hood/fume cupboard to avoid all exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Personal exposure must be controlled to conform to local/national regulations (see Section 16). If this is not possible, respiratory protection must be worn.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if there is danger of splashing or handling significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if there is danger of splashing or handling significant quantities.

9 PHYSICAL AND CHEMICAL PROPERTIES (1)

9.1 Appearance:	Purple liquid	9.2 Odour:	None
9.3 pH:	7.25, approx.		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined (aqueous solution)		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient(2): Log $P_{o/w}$ (Octanol/water) = not determined

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with strong acids or alkalis; copper or lead piping.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested. Based on its components and the application of the EU "conventional method", it is not classified as "dangerous". However, it has not been fully tested, so precautions should be taken to avoid exposure.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorised as Catalogue Index No. 18 01 07 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 07 = chemicals not containing dangerous substances).

Do not send wastes down the sink. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
None (at concentrations prescribed under the Directive)	Not applicable

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and according to the OSHA hazard communication standard (29 CFR 1910.1200) and labelled as below:

INDICATOR DYE **INDIC**

Warning symbol(s)	-	None
Warning words	-	None
Risk phrases	-	None
Safety Phrases	-	None

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m^3)	Short-term (mg/m^3)	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - All components are listed in TSCA and EINECS inventories

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

hc2 HPV/CT/GC

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **NEGATIVE CONTROL** CONTROL -

1.2 Company/Undertaking Identification: Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No: Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Aliphatic amine hydrochloride	Proprietary	<10	Xn (Harmful)	22-36/38
DNA Plasmid*	-	<0.1	None	Not applicable
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Other components* & water	-	Up to 100	-	-

*These components are at concentrations that do not meet EU or US OSHA criteria for classifying as dangerous or hazardous, respectively, under these regulations.

3 HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. If concerned, seek medical advice.

In case of inhalation - Remove to fresh air. If concerned, seek medical advice.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. If concerned, seek medical advice.

In case of contact with skin - Wash with plenty of water. If concerned, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:
Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None

5.2 If involved in a fire: If vials are broken and contents dry out, will burn and may give off noxious fumes (e.g. mainly carbon and nitrogen oxides and some chlorinated compounds). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Contain any spilled material immediately with paper towel or dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or a laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Not normally required for this product.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if there is danger of splashing, or if handled in significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if there is danger of splashing or if handled in significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES (1)

9.1 Appearance:	Clear liquid	9.2 Odour:	Not determined
9.3 pH:	approx. 8		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient(2): Log $P_{o/w}$ (Octanol/water) - Not determined

9.16 Other data: None relevant to safety

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with oxidising agent and strong bases.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested, but based on its components and the application of the EU "conventional method", it is not classified as "dangerous". However, it has not been fully tested, so precautions should be taken to avoid exposure.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorized as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not dispose of waste down the drain. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
Aliphatic amine hydrochloride	Proprietary

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and labelled as below:-

NEGATIVE CONTROL CONTROL -

Warning symbol(s)	-	None
Warning words	-	None
Risk phrases	-	None
Safety Phrases	-	None

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m^3)	Short-term	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - All components are listed in TSCA and EINECS inventories

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **PROBE DILUENT** DIL PROBE

1.2 Company/Undertaking Identification:
Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No:
Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Acid sulfur compound	Proprietary	<13	Xn (Harmful)	20/21/22-36/37/38
Alcohol amine	Proprietary	<12	Xi (Irritant)	36/37/38
Polymer acid	Proprietary	<15	Xi (Irritant)	36
Organic salt	Proprietary	<4	Xi (Irritant)	36/37/38
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) & N (Dangerous for the environment)	28-32-50/53
Other (non-classified) components* & water	-	Up to 100	-	-

* These components are at concentrations that do not contribute to the hazard classification of this compound under EU or OSHA hazard communication regulations

3 HAZARDS IDENTIFICATION**

CAUTION
May cause reversible eye irritation
** Hazards based on toxicity testing of formulated product mixture; Testing shows that preparation/product mixture is an eye irritant under US hazard communication regulations (29 CFR 1910.1200) but does not meet European Union criteria for eye irritation.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. Keep patient calm. Seek medical advice.

In case of inhalation - Remove to fresh air. Keep patient calm. Seek medical advice; symptomatic treatment.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. Seek medical advice.

In case of contact with skin - Wash with plenty of water. If irritation persists or develops, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:
Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None identified

5.2 If involved in a fire:
If vials are broken and contents are allowed to dry, will burn and may give off noxious fumes (e.g. carbon, nitrogen and sulphur oxides, ammonia and some chlorinated products). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Observe any warning labels on the container (see Sections 14 and 15). Take precautions to avoid exposure (See Section 8).

Contain any spilled material immediately with paper towels, dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Personal exposure must be controlled to conform to local/national regulations (see Section 16). If this is not possible, respiratory protection must be worn.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if splashing may occur or handling significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if splashing may occur or handling significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Clear, viscous liquid	9.2 Odour:	None
9.3 pH:	3.86, approx.		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	1.2, approx.	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient[2]: Log $P_{o/w}$ (Octanol/water) - Not determined

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with oxidising agent, acids and strong bases. Copper and lead piping

10.3 Hazardous decomposition products:
Mainly carbon, nitrogen and sulphur oxides, ammonia and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects
Acute oral LD 50 of formulation > 2 g/kg (rat); toxicity found at this dose included lethality, but in less than 50% of animals tested.
Acute dermal LD50 > 2 g/kg (rabbit)
Skin irritation: Not an irritant
Eye irritation; Formulation produced reversible eye irritation that is considered to be an irritant under US OSHA hazard communication regulations but not considered warranting EU risk and safety phrases.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorised as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not send wastes down the sink. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None

Hazard Class:	None
ADR/RID Item No:	None
IATA/DGR limits:	None
IMDG/IMO Code:	None

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
None above criteria for listing	Not applicable

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and OSHA hazard communication regulations (29 CFR 1910.1200) and labelled as below:

PROBE DILUENT DIL PROBE

Warning symbol(s)	-	None required
Warning words	-	None required
Risk phrases	-	None required in EU; in US, recommended warning label should include Caution: "May cause reversible eye irritation"
Safety Phrases	-	None required in EU

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m³)	Short-term (mg/m³)	Reference
Alcohol amine	5	-	UK, Holland, Norway, US-ACGIH
	3.1	-	Denmark
	5	10 (15-min)	Sweden
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - All components are listed in TSCA and EINECS inventories
Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.
Revisions - The latest information changes are marked with | in the left margin
References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **SAMPLE CONVERSION BUFFER** BUF | SAMP | CONV

1.2 Company/Undertaking Identification:
Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No:
Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Proprietary polymer acid	Proprietary	<15	Xi (Irritant)	R36
Proprietary buffer hydrochloride	Proprietary	<5	Xi (Irritant)	R36/37/38
Proprietary alcohol	Proprietary	<1.5	F (Flammable)	11
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Other non-hazardous/classified components* and water		Up to 100		

*These components are at concentrations that do not meet EU or US OSHA criteria for classifying as dangerous or hazardous, respectively, under these regulations or are non-hazardous/non-classified under the regulations.

3 HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. Keep patient calm. Seek medical advice.

In case of inhalation - Remove to fresh air. Keep patient calm. Seek medical advice; symptomatic treatment.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. Seek medical advice.

In case of contact with skin - Wash with plenty of water. If irritation persists or develops, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media: Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None identified

5.2 If involved in a fire: If vials are broken and contents are allowed to dry, will burn and may give off noxious fumes (e.g. carbon, nitrogen and sulphur oxides, ammonia and some chlorinated products). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Observe any warning labels on the container (see Sections 14 and 15). Take precautions to avoid exposure (See Section 8).
Contain any spilled material immediately with paper towels, dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Personal exposure must be controlled to conform to local/national regulations (see Section 16). If this is not possible, respiratory protection must be worn.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if splashing may occur or handling significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if splashing may occur or handling significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Red liquid	9.2 Odour:	None
9.3 pH:	6.6, approx.		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined (not considered flammable based on small percentage of alcohol in aqueous solution)		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12
9.14 Solubility:	Water - Miscible in all proportions Fat (type) - Not determined Other solvents - Miscible in most polar solvents		
9.15 Partition coefficient[2]:	Log $P_{o/w}$ (Octanol/water) - Not determined		

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with oxidising agent and strong bases.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested, but based on its components and the application of the EU "conventional method", it is not classified as "dangerous". However, it has not been fully tested, so precautions should be taken to avoid exposure.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorised as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not send wastes down the sink. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
Alcohol	Proprietary

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and US hazard communication regulations (29CFR 1910.1200) and labelled as below:

SAMPLE CONVERSION BUFFER | BUF | SAMP | CONV |

Warning symbol(s)	-	None
Warning words	-	None
Risk phrases	-	None
Safety Phrases	-	

16 OTHER INFORMATION

Occupational Exposure Levels	mg/m³ 8h-TWA	Short-term	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany
Proprietary alcohol	1910 = 1000 ppm		US-ACGIH TLV; US OSHA PEL UK, Germany

Inventories - All components are listed in TSCA and EINECS inventories
Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.
Revisions - The latest information changes are marked with | in the left margin
References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

MATERIAL SAFETY DATA SHEET
Revision 1, Effective: ~~1 August 2003~~ AUG. 2 5 2003

hc2 HPV/CT/GC

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1	Identification of the Product:	**SPECIMEN TRANSPORT MEDIUM** MED SPEC TRANS
1.2	Identification of Company	Digene Corporation 1201 Clopper Road Gaithersburg, MD 20878
1.3	Emergency Tel. No:	Domestic (U.S.) +301-944-7000 (8:30 AM – 5 PM Eastern M-F) International (U.K.) +44 (20) 7348 3500 (9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Aliphatic amine hydrochloride	Proprietary	<10	Xn (Harmful)	22-36/38
Sodium azide*	26628-22-8	0.05	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Other components* & water	-	Up to 100	-	-

*These components are at concentrations that do not meet EU or US OSHA criteria for classifying as dangerous or hazardous, respectively, under these regulations.

3. HAZARDS IDENTIFICATION

Based on percentages of hazardous ingredients in this product, this product is not classified as "dangerous" under EU Directives or hazardous under US OSHA Hazard Communication regulations.

4 FIRST AID MEASURES

In case of swallowing	- Wash out mouth thoroughly with water. Do not induce vomiting. If concerned, seek medical advice.
In case of inhalation	- Remove to fresh air. If concerned, seek medical advice.
In case of contact with eyes	- Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. If concerned, seek medical advice.
In case of contact with skin	- Wash with plenty of water. If concerned, seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1	Extinguishing media:	Suitable -	Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
		Not suitable-	None
5.2	If involved in a fire:		If vials are broken and contents allowed to dry out, will burn and may give off noxious fumes (e.g. mainly carbon and nitrogen oxides and some chlorinated compounds). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Contain any spilled material immediately with paper towel or dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or a laboratory Hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Not normally required for this product.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if splashing may occur or handling significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if splashing may occur or handling significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Clear liquid	9.2 Odour:	Not determined
9.3 pH:	8.4, approx.		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12

9.14 Solubility:
- Water - Miscible in all proportions
- Fat (type) - Not determined
- Other solvents - Miscible in most polar solvents

9.15 Partition coefficient[2]: Log $P_{o/w}$ (Octanol/water) - Not determined

9.16 Other data: None relevant to safety

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with oxidising agent and strong bases.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation has not been tested, but based on its components and the application of the EU "conventional method," it is not classified as "dangerous." However, it has not been fully tested, so precautions should be taken to avoid exposure.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested. Therefore, avoid discharge to water systems.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorised as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not dispose of waste down the drain. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None
Hazard Class:	None		
ADR/RID Item No:	None		
IATA/DGR limits:	None		
IMDG/IMO Code:	None		

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
Aliphatic amine hydrochloride	Proprietary

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and US hazard communication regulations (29 CFR 1910.1200) and labelled as below:-

SPECIMEN TRANSPORT MEDIUM | MED | SPEC | TRANS |

Warning symbol(s)	-	None
Warning words	-	None
Risk phrases	-	None
Safety Phrases	-	None

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m^3)	Short-term	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - All components are listed in TSCA and EINECS inventories

Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.

Revisions - The latest information changes are marked with | in the left margin

References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

hc2 HPV/CT/GC

1 IDENTIFICATION OF THE PRODUCT AND OF THE COMPANY

1.1 Identification of the Product: **WASH BUFFER CONCENTRATE (30X)**
BUF | WASH | X 30

1.2 Company/Undertaking Identification:
Digene Corporation
1201 Clopper Road
Gaithersburg, MD 20878

1.3 Emergency Tel. No:
Domestic (U.S.) +301-944-7000
(8:30 AM – 5 PM Eastern M-F)
International (U.K.) +44 (20) 7348 3500
(9 AM – 6 PM Local U.K. Time M-F)

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance	CAS No.	% Present	EC Symbol(s)	R-Phrases
Sodium azide	26628-22-8	<2	T^+ (Very toxic) and N (Dangerous for the environment)	28-32-50/53
Buffers	Proprietary	<20	Xi	36/37/38
Salt	Proprietary	<20	Not hazardous	Not applicable
Water	7732-18-5	Up to 100	-	-

3 HAZARDS IDENTIFICATION

Based on an assessment of the hazardous ingredients of the mixture/formulation, the following warning is provided for this product:

WARNING
Toxic if swallowed.
Contact with acids liberates very toxic gas.
Contains sodium azide - overexposure to sodium azide may cause hypotension (decreased blood pressure).

4 FIRST AID MEASURES

In case of swallowing - Wash out mouth thoroughly with water. Do not induce vomiting. Keep patient calm. Seek medical advice.

In case of inhalation - Remove to fresh air. Keep patient calm. Seek medical advice; symptomatic treatment.

In case of contact with eyes - Rinse immediately with plenty of water for at least 15 minutes, avoiding contamination of unaffected eye. Keep patient calm and seek medical advice.

In case of contact with skin - Wash with plenty of water and seek medical advice.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media:
Suitable- Will not burn unless dried out. Water jets, mist, foam, carbon dioxide or other dry agents, if contents dried out and burning.
Not suitable- None identified

5.2 If involved in a fire: If vials are broken and contents allowed to dry out, will burn and may give off noxious fumes (e.g. carbon and nitrogen oxides, ammonia and some chlorinated products). Wear breathing apparatus and protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Observe any warning labels on the container (see Sections 14 and 15). Take precautions to avoid exposure (See Section 8).

Contain any spilled material immediately with paper towels, dry agent (sand, vermiculite, etc.) and vacuum or shovel into labelled containers for disposal (See Section 13).

7 HANDLING AND STORAGE

7.1 Handling: Handle this product under conditions of good local exhaust ventilation or a laboratory hood/fume cupboard to avoid exposure (e.g. breathing mist or fumes, swallowing, and eye and skin contact). If this is not possible, use personal protective equipment (Section 8).

7.2 Storage: Store in a cool place and replace lid after use.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Respiratory: Personal exposure must be controlled to conform to local/national regulations (see Section 16). If this is not possible, respiratory protection must be worn.

8.2 Hand: Chemical resistant gloves

8.3 Eye: At a minimum, safety glasses with side shields are required; goggles or eye/face shield may be needed if splashing may occur or handling significant quantities

8.4 Skin: At a minimum, a laboratory coat is needed; other protective overgarments (e.g., sleeve covers or tyvek garments) may be needed if splashing may occur or handling significant quantities

9 PHYSICAL AND CHEMICAL PROPERTIES [1]

9.1 Appearance:	Clear liquid	9.2 Odour:	Not determined
9.3 pH:	7.8, approx.		
9.4 Boiling Pt./range:	>100°C.	9.5 Melting Pt./range:	< 0°C.
9.6 Flash point:	Not determined (aqueous solution)		
9.7 Flammability:	See 9.6	9.8 Autoflammability:	See 9.6
9.9 Explosive properties:	Not determined		
9.10 Oxidising properties:	Not determined	9.11 Vapour pressure:	Not determined
9.12 Relative density:	Not determined	9.13 Bulk density:	See 9.12

9.14 Solubility:

Water	- Miscible in all proportions
Fat (type)	- Not determined
Other solvents	- Miscible in most polar solvents

9.15 Partition coefficient[2]: Log $P_{o/w}$ (Octanol/water) = not determined

10 STABILITY AND REACTIVITY

10.1 Conditions to avoid: None known.

10.2 Materials to avoid: Avoid mixing with acids. Do not dispose of down the sink as may react with metals.

10.3 Hazardous decomposition products:
Mainly carbon and nitrogen oxides, ammonia and some chlorinated products may be released on burning or heating to decomposition.

11 TOXICOLOGICAL INFORMATION

Acute effects[2,3]
This formulation contains sodium azide at a concentration < 2%. Overexposure to sodium azide may cause hypotension (decreased blood pressure). Based on the presence of sodium azide and no further testing of the preparation, this mixture is considered toxic if swallowed.

Chronic effects [2,3]
No known chronic effects provided that precautions are taken to avoid acute effects described above.

12 ECOLOGICAL INFORMATION

This formulation has not been tested.

13 DISPOSAL CONSIDERATIONS

Users should acquaint themselves with local regulations.

Waste should not be considered as "hazardous waste". Under European Waste regulations, it is categorised as Catalogue Index No. 18 01 06 (18 = wastes from human or animal care and/or related research; 01 = wastes from natal care, diagnosis, treatment or prevention of disease in humans and 06 = chemicals containing dangerous substances).

Do not dispose of waste down the drain. Disposal may be carried out by collecting the waste and burning under controlled conditions at a licensed waste material processor; stack gases will need to be scrubbed.

14 TRANSPORT INFORMATION

Proper Shipping Name: Not classified as dangerous for transport

UN No.:	None	Symbol:	None

Hazard Class:	None
ADR/RID Item No:	None
IATA/DGR limits:	None
IMDG/IMO Code:	None
Tremcard No:	Not applicable

15 REGULATORY INFORMATION

Components listed as "dangerous" in Annex I to Directive 67/548/EEC[2]

Component or impurity	Annex I Number
Sodium azide	011-004-00-7

Classified according to the Directives 67/548/EEC and 1999/45/EC, and their various amendments, and the US OSHA hazard communication standard (29 CFR 1910.1200) and labelled as below:

WASH BUFFER CONCENTRATE (30X) | BUF | WASH | X 30 |
(Contains sodium azide)
WARNING!

Warning symbol(s) - Skull and Crossbones (T)

Warning words - TOXIC
Risk phrases -
R25 Toxic if swallowed.
R32 Contact with acids liberates very toxic gas

Safety Phrases -
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection
S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)

US Target organs – Overexposure to sodium azide may produce hypertension (decreased blood pressure)

Other National and International Regulations
Sodium azide is listed or meets the criteria for the following regulations:
US SARA (Superfund Amendments and Reauthorization Act) – Sections 302/304 and Section 313
US RCRA (Resource Conservation and Recovery Act) – Waste number P105

16 OTHER INFORMATION

Occupational Exposure Levels	8h-TWA (mg/m^3)	Short-term	Reference
Sodium azide	0.1	0.3 (15-min)	EU-IOELV,
	-	0.3 (15-min)	UK
	0.3 (ceiling)	-	US-ACGIH TLV; US OSHA PEL, Denmark, Norway Holland
	0.3	0.3 (15-min)	Sweden
	0.27	0.81 (15-min)	Finland
	0.2	-	Germany

Inventories - All components are listed in TSCA and EINECS inventories
Intended uses - Laboratory use by experienced clinicians for *in vitro* diagnoses.
Revisions - The latest information changes are marked with | in the left margin
References - (1) In-house files.
(2) Annex I to Dangerous Substance Directive 67/548/EEC
(3) EU Directive 1999/45/EC

The format of this Safety Data Sheet conforms to the requirements of EC Directive 91/155/EEC and US ANSI/CMA guidelines.

Disclaimer - Although reasonable care has been taken in the preparation of this document to assess and summarise the hazard properties of the product, the user must satisfy himself that the information contained herein is pertinent to permit safe handling under his use conditions, since the supplier cannot foresee all conditions of use. The information contained herein is not intended as a product specification.

EC Safety Data Sheet
According to EC-directive 93/112/EC

NucliSens Lysis Buffer

Unique code: | 284046 / 284047 / 284135 | Date of last issue: 25/03/2002 Version: 5

4. FIRST AID MEASURES

Routes of exposure	Ingestion and skin absorption.
Possible symptoms	Symptoms of exposure may include: nausea, vomiting.
Possible effects	Effects of overexposure: Harmful in contact with skin and if swallowed. May cause: irritation of the eyes. May cause: irritation of the skin. May cause: ataxia; spasm, coma, collapse, nervous system disturbances.
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	-
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.
Medical advice	If swallowed (and when followed by vomiting), there is danger of aspiration.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	Water, fire extinguishing powder, carbon dioxide or foam.
Non-suitable Extinguishing agents	None.
Hazardous decomposition or combustion products	Nitrous gases (NOx) Sulfurous gases (SOx)

010325

Technical measures	No specific recommendations.

Personal protection

Respiratory	No specific recommendations.
Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing,

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solution
Physical state	liquid
Colour	clear colourless
Odour	odourless
Boiling point/range	not determined
Melting point/range	not applicable
Flammability	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Explosive properties	lower: not applicable upper: not applicable
Explosion limits	lower: not applicable upper: not applicable
Vapour pressure	not applicable
Density	1.12 +/- .02 g/ml
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	

Dose No data available.

LC50 inhalation

Dose No data available.

LD50 intraperitoneal mouse

Dose 300 mg/kg

Inform. applies to GUANIDINE THIOCYANATE

Acute toxicity (irritation, sensitisation etc.)

Irritation skin

Results No data available.

Irritation eye

Results No data available.

Irritation respiratory

Results No data available.

Sensitization

Results No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity No data available.

Other information RTECS No: XL1225000 (GUANIDINE THIOCYANATE).

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient not determined

No data available.

15. REGULATORY INFORMATION

Classification EU directives and own criteria

Hazard symbol(s) (Xn) Harmful

Risk phrases
(R21/22) Harmful in contact with skin and if swallowed.
(R32) Contact with acids liberates very toxic gas.

Safety phrases
(S26) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
(S36/37) Wear suitable protective clothing and gloves.

Additional information

National regulations

16. OTHER INFORMATION

Toxicity data and all other data are property of bioMérieux B.V.

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Date of Printing: 25/03/2002

4. FIRST AID MEASURES

Routes of exposure	Ingestion and skin absorption.
Possible symptoms	Symptoms of exposure may include: nausea, vomiting.
Possible effects	Effects of overexposure: Harmful in contact with skin and if swallowed. May cause: irritation of the eyes. May cause: irritation of the skin. May cause: ataxia, spasm, coma, collapse, nervous system disturbances.
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	-
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.
Medical advice	If swallowed (and when followed by vomiting), there is danger of aspiration.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	Water, fire extinguishing powder, carbon dioxide or foam.
Non-suitable Extinguishing agents	None.
Hazardous decomposition or combustion products	Nitrous gases (NOx) Sulfurous gases (SOx)
Other information	Not combustible.

Personal protection

Respiratory	No specific recommendations.
Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing,

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	liquid
Physical state	solid
Colour	clear colourless
Odour	odourless
Boiling point/range	not determined
Melting point/range	not applicable
Flammability	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Explosive properties	lower: not applicable upper: not applicable
Explosion limits	lower: not applicable upper: not applicable
Vapour pressure	not applicable
Density	not determined
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	not determined
Solubility in water	soluble

Dose 300 mg/kg
Inform. applies to GUANIDINE THIOCYANATE

Acute toxicity (irritation, sensitisation etc.)

Irritation skin
Results No data available.
Irritation eye
Results No data available.
Irritation respiratory
Results No data available.
Sensitization
Results No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity No data available.

Other information RTECS No: XL1225000 (GUANIDINE THIOCYANATE).

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient
not determined

No data available.

Ecotoxicity

No data available.

Safety phrases
(S26) In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
(S36/37) Wear suitable protective clothing and gloves.

Additional information

National regulations

16. OTHER INFORMATION

Toxicity data and all other data are property of bioMérieux B.V.

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Date of Printing: 25/03/2002

4. FIRST AID MEASURES

Routes of exposure	Ingestion and skin absorption.
Possible symptoms	Symptoms of exposure may include: nausea, vomiting.
Possible effects	Effects of overexposure: Harmful in contact with skin and if swallowed. May cause: irritation of the eyes. May cause: irritation of the skin. May cause: ataxia; spasm, coma, collapse, nervous system disturbances.
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	-
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.
Medical advice	If swallowed (and when followed by vomiting), there is danger of aspiration.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	Water, fire extinguishing powder, carbon dioxide or foam.
Non-suitable Extinguishing agents	None.
Hazardous decomposition or combustion products	Nitrous gases (NOx) Sulfurous gases (SOx)
Other information	Not combustible.

Respiratory	No specific recommendations.
Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing,

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solution
Physical state	liquid
Colour	clear colourless
Odour	odourless
Boiling point/range	not determined
Melting point/range	not applicable
Flammability	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Explosive properties	lower: not applicable upper: not applicable
Explosion limits	lower: not applicable upper: not applicable
Vapour pressure	not applicable
Density	not determined
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	not determined
Solubility in water	soluble
pH (quant.)	8.5 +/- .2
Partition coefficient	

Irritation skin
Results No data available.
Irritation eye
Results No data available.
Irritation respiratory
Results No data available.
Sensitization
Results No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity No data available.

Other information RTECS No: PV6210000 (METHYLSULFOXIDE)

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient
not determined

No data available.

Ecotoxicity

No data available.

Biochemical oxygen demand

No data available.

AOX

National regulations

16. OTHER INFORMATION

| Toxicity data and all other data are property of bioMérieux B.V.

| This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Date of Printing: 25/03/2002

4. FIRST AID MEASURES

Routes of exposure	Ingestion and skin absorption.
Possible symptoms	Symptoms of exposure may include: nausea, vomiting.
Possible effects	Effects of overexposure: Harmful in contact with skin and if swallowed. May cause: irritation of the eyes. May cause: irritation of the skin. May cause: ataxia; spasm, coma, collapse, nervous system disturbances.
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	-
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.
Medical advice	If swallowed (and when followed by vomiting), there is danger of aspiration.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	Water, fire extinguishing powder, carbon dioxide or foam.
Non-suitable Extinguishing agents	None.
Hazardous decomposition or combustion products	Nitrous gases (NOx) Sulfurous gases (SOx)
Other information	Not combustible.

Respiratory	No specific recommendations.
Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing,

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solution
Physical state	liquid
Colour	clear colourless
Odour	odourless
Boiling point/range	not determined
Melting point/range	not applicable
Flammability	not applicable
Flash point	not applicable
Auto-ignition temperature	not applicable
Explosive properties	lower: not applicable upper: not applicable
Explosion limits	lower: not applicable upper: not applicable
Vapour pressure	not applicable
Density	not determined
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	not determined
Solubility in water	soluble
pH (quant.)	No data available.

Irritation skin
Results No data available.
Irritation eye
Results No data available.
Irritation respiratory
Results No data available.
Sensitization
Results No data available.

Delayed or chronic toxicological effects

No data available.

Other toxicological information

Genotoxicity No data available.

Other information RTECS No: XL1225000 (GUANIDINE THIOCYANATE).

12. ECOLOGICAL INFORMATION

Persistence and degradation

No data available.

Mobility

No data available.

Bioaccumulative potential

Partition coefficient
not determined

No data available.

Ecotoxicity

No data available.

Biochemical oxygen demand

No data available.

Additional information

National regulations

16. OTHER INFORMATION

Toxicity data and all other data are property of bioMérieux B.V.

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

A vertical bar (|) in the left margin indicates an amendment from the previous version.

Date of Printing: 25/03/2002

4. FIRST AID MEASURES

Routes of exposure	Inhalation, ingestion, skin absorption.
Possible symptoms	Symptoms of exposure may include: abdominal pain, coughing, gastro-intestinal complaints, nausea, severe irritation.
Possible effects	No typical symptoms and effects known
General advice	In all cases of doubt, or when symptoms persist, seek medical attention.
Eye contact	Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Consult a physician immediately.
Skin contact	Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	Remove to fresh air, keep victim warm and at rest.
Ingestion	Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.

5. FIRE FIGHTING MEASURES

Special hazards	None.
Protective equipment	No specific recommendations.
Extinguishing agents	All extinguishing products are allowed.
Non-suitable Extinguishing agents	None.
Additional information	Not combustible.
Hazardous decomposition or combustion products	None.

Eye	Wear safety goggles.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	solution
Physical state	liquid
Colour	clear
Odour	odourless
Boiling point/range	not available
Flammability	not applicable
Melting point/range	not available
Flash point	not determined
Auto-ignition temperature	not determined
Explosive properties	lower: not applicable upper: not applicable
Vapour pressure	not determined
Density (specific gravity)	not determined
Bulk density	not determined
Relative vapour density air=1	not determined
Solubility	not determined
Solubility in water	Completely miscible
pH (quant.)	not determined
Partition coefficient	not applicable

Material Safety Data Sheet

The Texwipe Company
650 East Crescent Avenue
Upper Saddle River, NJ 07458
(201) 327-9100

November 1992
TX150, TX152
MSDS #0014

SECTION I: PRODUCT IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT (TRADE) NAME: Glass and Plastic Cleaner
PRODUCT IDENTIFICATION NUMBER(S): TX150, TX152
CHEMICAL NAME AND SYNONYMS: Hydroalcholic Solution
CHEMICAL FORMULA: Proprietary Blend; Predominantly (CH3)2 CHOH

EMERGENCY TELEPHONE NUMBERS: The Texwipe Company: 1-800-284-5577
Chemtrec (Transportation): 1-800-424-9300

SECTION II: HAZARDOUS INGREDIENTS

COMPONENT	CAS #	%	OSHA PEL (ppm)	ACGIH TLV (ppm)
Isopropyl Alcohol	67-63-0	65.0	400	400
Ammonium Hydroxide	7664-41-7	0.25	50	25
Dipropylene Glycol Monomethyl Ether	34590-94-8	0.20	NA	100
Propylene Glycol Monomethyl Ether	107-98-2	0.80	NA	100

All components used in the formulation classified as hazardous under OSHA's Hazard Communication Standard, 29CRF 1910.1200, appear above. Based on the definitions set forth in the standard for hazardous chemicals in a mixture, Sections, IV - X, pertain only to Isopropyl Alcohol at the concentration specified above.

SECTION III: PHYSICAL DATA

BOILING POINT (@ 1 atm F(°C)): 179 (81.6)
VAPOR PRESSURE (mmHg @ 25°C): 36
VAPOR DENSITY (AIR=1): >1
% SOLUBLE IN WATER @ 25°C: 100
SPECIFIC GRAVITY (g/cc @ 25°C): 0.873

% VOLATILE BY VOLUME: >99
EVAPORATION RATE (BUTYL ACETATE=1): >1.0
FORM: Liquid
ODOR: Alcohol
APPEARANCE: Clear

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TCC): 71°F
FLAMMABLE LIMITS (% BY VOLUME): LEL: NA UEL: NA
AUTOIGNITION TEMPERATURE F(°C): NA

EXTINGUISHING MEDIA: Fires involving Isopropyl Alcohol may be extinguished using carbon dioxide, dry chemical or alcohol foam. Water may be used to cool fire exposed containers. Fine water mist may be used to smother fire or disperse vapors.

UNUSUAL FIRE OR EXPLOSION HAZARDS: None required than those listed above. No unusual combustion by products produced.

010343

The information provided herein is compiled from internal reports and data from professional publications. It is furnished without warranty of any kind, expressed or implied. It is intended soley to assist in evaluating suitability and proper use of the material and in implementing safety precautions and procedures.

NFPA RATING: Health (1)
Flammability (3)
Reactivity (0)

Classified as an OSHA Class IB Flammable Liquid

NA = Not Available

SECTION V: HEALTH HAZARD INFORMATION

PRIMARY ROUTES OF ENTRY, SIGNS AND SYMPTOMS OF OVER EXPOSURE, TARGET ORGANS, AND ASSOCIATED TOXICITY INFORMATION:

Mild irritation to the nose and throat. Prolonged exposures above the TLV may cause narcosis, nausea and headache. Eye contact will cause local irritation and burning sensations, with possible eye damage. Skin contact will cause a stinging and burning sensation with defatting and possible irritation from prolonged contact. This alcohol is considered poison, with ingestion of 20ml causing serious illness. The single lethal oral dose for an adult is approximately 250ml.

CARCINOGENICITY (OSHA/NTP/IARC/ACIGH): Not listed.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None listed.

FIRST AID

EYE CONTACT: Irrigate with water for 15 minutes, including under eyelids. Get medical help.
SKIN CONTACT: Flush with water.
INHALATION: Remove to fresh air. Restore and/or support breathing as needed. Give oxygen if breathing is difficult.
INGESTION: Get prompt medical help. Give water to drink to dilute. If medical help is not readily available, the amount ingested was large and the victim is conscious and alert, induce vomiting.

SECTION VI: REACTIVITY DATA

STABILITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur
INCOMPATIBILITIES/CONDITIONS TO AVOID: Caustics, amines, alkanolamines, aldehydes, ammonia, strong oxidizing agents and chlorinated compounds.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal-oxidative degradation may produce carbon monoxide.

SECTION VII: SPILL OR LEAK PROCEDURES

Clean-up personnel need protection against liquid contact and vapor inhalation. Absorb small spills with paper towels, evaporate flammable alcohol in exhaust hood and burn dry paper. Contain large spills; collect liquid if feasible or absorb with vermiculite or sand; then place into covered container (using non-sparking tools) for disposal. Water spray can be used to dilute and flush spill if necessary, but do not flush to water course or to sewer or enclosed area.

DISPOSAL: Burn waste liquid in an approved incinerator or dispose of via licensed waste disposal company. Absorbed liquid can be landfilled. Follow Federal, State and Local regulations.

SECTION VIII: SPECIAL PRECAUTIONS AND CONTROL MEASURES

Provide general and exhaust ventilation (explosion-proof) to meet TLV requirements. Exhaust hoods should maintain a 100cfm face velocity. Preplacement and periodic medical examinations should emphasize skin, sinuses, and the respiratory system.

Store in a clean, cool, ventilated area away from sources of ignition and oxidizing agents. Handle and store in a manner suitable for an OSHA Class 1B Flammable Liquid. Electrical services must need code. Bond and ground containers for transfers. Use non-sparking tools. Use with adequate ventilation. Avoid inhalation of vapors and repeated or prolonged contact of liquid with skin or clothing. Do not take internally. Wash thoroughly after handling. Do not smoke or eat in areas of storage or use.

Wear long sleeves, chemical resistant gloves, chemical goggles when contacting large volumes.

SECTION IX: SHIPPING INFORMATION

DOT CLASSIFICATION

Proper Shipping Name:	Consumer Commodity
Hazard Class:	ORM-D
UN No.:	None
Hazard Labeling Required:	None

IATA CLASSIFICATION

Proper Shipping Name:	Isopropanol Solution
Hazard Class:	3
Subsidiary Risks:	None
UN No.:	1219
Hazard Labeling Required:	Flammable Liquid

SECTION X: ADDITIONAL INFORMATION

HMIS DESIGNATIONS

Health (Blue):	1
Flammability (Red):	3
Reactivity (Yellow):	0
Personal Protection:	Personal protection ratings will vary depending on conditions of use.

SARA TITLE III REPORTING REQUIREMENTS

Toxic Chemical (Section 313): Not listed.
Extremely Hazardous Substance (Sections 302, 304, 311 and 312): Not listed.

TSCA INVENTORY STATUS

Isopropyl Alcohol: Reported/Included

SARA TITLE III PRODUCT HAZARD CATEGORIES

Chronic Health:	No
Acute Health:	No
Fire Hazard:	Yes
Pressure Hazard:	No
Reactivity Hazard:	No

NOTE: The quantity of hazardous material per package (presaturated towelettes) is only 3.2ml (2.5g). All hazard data should be reviewed accordingly.

AUTHORIZED SIGNATURE: Scott Fahy
Scott Fahy, Technical Service Manager

Elaine Jacinto (SCPMG Regional Reference Laboratories) <elaine.p.jacinto@kp.org>
08/20/2004 05:54 PM

To ITW Texwipe Info <info@texwipe.com>
cc
bcc
Subject Data from the ITW Texwipe Website Contact Form

The following data was sent on Friday August 20, 2004 at 4:54:50 PM

First Name: Elaine
Last Name: Jacinto
Organization: SCPMG Regional Reference Laboratories
Title: Safety Coordinator
Address: 11668 Sherman Way
City: North Hollywood
State/Province: CA
Postal Code: 91605
Country: USA

TO

Phone: 818-503-6937
Fax: 818-503-6504
E-Mail: elaine.p.jacinto@kp.org

Notification of new developments at Texwipe:

Required Product Specification: MSDS for TX152

Comments:

Please forward a copy of the MSDS for TX152 via email or fax at your earliest convenience. Feel free to contact me with any questions or comments.

Thank you

MATERIAL SAFETY DATA SHEET
(PREPARED ACCORDING TO 29 CFR 1910.1200)

IDENTITY (As Used on Label): SHEILA SHINE LIQUID

Section 1 - Product Identification

Manufactured By:
SHEILA SHINE, INC.
Address:
1201 N.W. FIRST AVENUE
MIAMI, FLORIDA 33136

Emergency Telephone number
(800)255-3924 CHEMTEL
Telephone # for Information
(800) 633-0481

Date Prepared: 01-31-02

Section 2-Hazardous Ingredients/Identity Information

Ingredients		OSHA PEL	ACGIH TLV	OTHER	%
PERCHLOROETHYLENE	CAS# 127-18-4	--	100 PPM		18-20
METHYL SALICYLATE	CAS# 119-36-8	--	--		APX .1
XYLENE	CAS# 1330-20-7		100ppm		18-20
HEAVY PARAFFINIC DISTILLATE	CAS# 64742-54-7	--	--		59-61

ALL COMPONENTS ARE LISTED ON THE TSCA LIST.

THE ONLY ONE OF THE ABOVE INGREDIENTS THAT IS A SUSPECTED CARCINOGEN IS PERCHLOROETHYLENE WHICH IS 19% OF TOTAL FORMULATION.

Section 3-Physical/Chemical Characteristics

Boiling Point: N/A
Vapor Pressure (mm Hg): 3.9
Vapor Density (Air=1): 5.4
Solubility in Water: INSOLUBLE

Specific Gravity (H2O=1): .983 @25 C
Melting Point: N/A
Evaporation Rate (Butyl Acetate): N/A
Appearance and Odor: SOLVENT ODOR – WINTERGREEN

Section 4-Fire and Explosion Hazard Data

Flash Point (Method Used): 110F
Flammable Limits: N/A LEL: N/A UEL: N/A
Extinguishing Media: DRY CHEMICAL, FOAM
Special Firefighting Procedures: WEAR SELF-CONTAINED BREATHING APPARATUS. HELMET WITH SHIELD. BOOTS AND COAT.

Unusual Fire and Explosive Hazards: ISOLATE FROM OXIDIZERS. OPEN FLAMES OR SPARKS.

NFPA Rating:
HEALTH 2 FLAMMABILITY 2 REACTIVITY 0 SPECIAL –

HMIS Rating:
HEALTH 1 FLAMMABILITY 2 REACTIVITY 0 PERSONAL PROTECTION 0

Section 5-Reactivity Data

Stability: Stable_XX_ Unstable__

Conditions to Avoid: ISOLATE FROM OXIDIZERS, OPEN FLAM AND SPARKS (ELECTRICAL)

Incompatibility (Materials to Avoid): ISOLATE STRONG OXIDIZERS, SUCH AS CHROMATES AND PEROXIDES
Hazardous Decomposition or By-products: CARBON MONOXIDE, CARBON DIOXIDES
Hazardous Polymerization: May Occur__ Will Not Occur_XX_
Conditions to Avoid: OXIDIZERS, OPEN FLAMES, SPARKS

Section 6-Health Hazard Data

Routes of Entry: Inhalation_XX_ Skin_XX_ Ingestion: _XX_

Health Hazards (Acute and Chronic):
Eye Contact: FLUSH WITH FOR 15 MINUTES, CONTACT A PHYSICIAN
Inhalation: REMOVE TO FRESH AIR, IF BREATHING IS DIFFICULT, GIVE OXYGEN.
Skin Contact: REMOVE CONTAMINATED CLOTHING - WASH THOROUGHLY WITH SOAP & WATER FOR 15 MINUTES.

Ingestion: IF SWALLOWED DO NOT INDUCE VOMITING – CALL PHYSICIAN IMMEDIATELY.

Carcinogenicity:	NIP?	IARC Monographs	OSHA Regulated
	NO	NO	NO

Signs and Symptoms of Overexposure: DIZZINESS, NAUSEA

Medical Conditions Generally Aggravated by Exposure: VOMITING, DIARRHEA, IRRITATION TO EYES, NOSE AND THROAT

Emergency and First Aid Procedures:

Section 7-Precautions for Safe Handling & Use

Steps to be taken in Case Material is Released or Spilled: USE ABSORBENT MATERIAL TO SOAK UP SPILL – DIKE ARE IF NEEDED. VENTILATE AREA, MOP UP AND DISPOSE OF. FOLLOW HAZARD PRECAUTION AS PRESCRIBED BY STATE, LOCAL AND FEDERAL REGULATIONS.

Waste Disposal Method: RECYCLE OR DISPOSE OF, OBSERVING STATE, LOCAL AND FEDERAL REGULATIONS.

Precautions to be taken in Handling and Storage: STORE IN COOL, WELL VENTILATED AREA. CONTAINER SHOULD BE TIGHTLY SEALED

Other Precautions:

Section 8-Control Measures

Respiratory Protection (Specific Type): IF NEEDED, USE MSRA / NTUSH RESPIRATOR ORGANIC VAPORS.

Ventilation: Local Exhaust: NECESSARY
Mechanical (General):
Special:
Other:

Protective Gloves: CHEMICAL RESISTANT
Other Protective Clothing or Equipment:
Eye Protection: SAFETY GLASSES

THIS INFORMATION IS OFFERED IN GOOD FAITH WITHOUT GUARANTEE. CONDITIONS ARE BEYOND OUR CONTROL. USER ASSUMES ALL RESPONSIBILITY AND RISK.

Date Prepared: January 19,2004

Gen-Probe Product
Nonhazardous Statement

Product name: APTIMA Assay Fluids Kit TIGRIS

Product description: APTIMA Wash Solution

MSDS number: 301133.356

As directed by the Code of Federal Regulations, Title 29, section 1910.1200 and the California Code of Regulations, Title 8, section 5194, Hazard Communication, Gen-Probe Incorporated has determined that the product mentioned above is nonhazardous. A Material Safety Data Sheet (MSDS) is not required to be provided with this product as determined by applicable federal and state hazard communication regulations.

The information provided herein represents the most reasonable current information available when this determination was made and is believed to be accurate and dependable. Nevertheless, Gen-Probe Incorporated makes no representation as to the accuracy or sufficiency of this information.

This product, or all the components thereof, is not for internal or external use in humans or animals. Use only as directed on the enclosed package insert. Gen-Probe Incorporated will assume no liability for the improper use of this product by misfeasance or malfeasance, nor will Gen-Probe Incorporated assume liability from any nonfeasance as a result of the use of this product. Good laboratory practices should be observed at all times, including, but not limited to, "universal precautions" and "work practice controls." Skin, mucous membranes, or eyes that come in contact with this product should be washed with plenty of water. If irritation results or persists, get medical attention.

1. Chemical Product and Company Identification

Product name: APTIMA Assay Fluids Kit
Product description: APTIMA Wash Solution
MSDS number: 301133.356

MANUFACTURER:

Gen-Probe Incorporated
10210 Genetic Center Drive
San Diego, CA 92121-4362

EMERGENCY TELEPHONE NUMBERS:

(800) 424-9300 (CHEMTREC National)
(703) 527-3887 (CHEMTREC International)
(858) 410-8000 (Gen-Probe Corporate Office)

For technical issues regarding reagents or instrumentation which do not pertain to a hazardous spill, contact Gen-Probe Technical Service at (800) 523-5001 Monday through Friday, 6:00 a.m. to 5:00 p.m. Pacific Time.

2. Composition/Information on Hazardous Ingredients

Component	Synonym	Percent (weight/weight)	CAS number
No hazardous components		>1%	

3. Hazards Identification

Emergency Overview: Not applicable.

4. First Aid Measures

Skin contact: Not applicable.

Eye contact: Not applicable.

Inhalation: Not applicable.

Ingestion: Not applicable.

5. Fire Fighting Measures

Flashpoint:	Not applicable.
Upper and Lower flammable limit:	Not applicable
Flammability classification:	Not applicable
General fire hazard information:	Not applicable
Extinguishing instructions/media:	Not applicable

6. Accidental Release Measures

Containment, treatment, and clean-up procedures:
Not applicable.

7. Handling and Storage

Not applicable.

8. Exposure Controls/Personal Protection

Ventilation: Not applicable.

Protective gloves: Not applicable.

Eye protection: Not applicable.

Other equipment: Not applicable.

9. Physical and Chemical Properties

Physical state, appearance and Odor: Not applicable.

Vapor pressure and density, specific density, solubility, pH, etc: Not applicable.

Other characteristics: Not applicable

10. Stability and Reactivity

Conditions to avoid: Not applicable.

Hazardous decomposition products and polymerization: Not applicable.

11. Toxicological Information

Not applicable.

Not applicable.

12. Ecological Information

Ecotoxicity and environmental fate: Data not yet available.

13. Disposal Considerations

Not applicable.

14. Transport Information

Proper shipping name and identification number: Not applicable

Hazard class: Not applicable

15. Regulatory Information

The information provided herein represents the most reasonable current information available when this determination was made and is believed to be accurate and dependable. Nevertheless, Gen-Probe Incorporated makes no representation as to the accuracy or sufficiency of this information.

This product, or all the components thereof, is not for internal or external use in humans or animals. Use only as directed on the enclosed package insert. Gen-Probe Incorporated will assume no liability for the improper use of this product by misfeasance or malfeasance, nor will Gen-Probe Incorporated assume liability from any nonfeasance as a result of the use of this product. Good laboratory practices should be observed at all times, including, but not limited to, "universal precautions" and "work practice controls." Skin, mucous membranes, or eyes that come in contact with this product should be washed with plenty of water. If irritation results or persists, get medical attention.

16. Other Information

None.

Date Prepared: January 19,2004

Gen-Probe Product
Nonhazardous Statement

Product name: APTIMA Assay Fluids Kit TIGRIS

Product description: APTIMA Buffer for Deactivation Fluid

MSDS number: 301133.355

As directed by the Code of Federal Regulations, Title 29, section 1910.1200 and the California Code of Regulations, Title 8, section 5194, Hazard Communication, Gen-Probe Incorporated has determined that the product mentioned above is nonhazardous. A Material Safety Data Sheet (MSDS) is not required to be provided with this product as determined by applicable federal and state hazard communication regulations.

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1. Chemical Product and Company Identification

TIGRIS

Product name: APTIMA Assay Fluids Kit

Product description: APTIMA Buffer for Deactivation Fluid

MSDS number: 301133.355

MANUFACTURER:

Gen-Probe Incorporated
10210 Genetic Center Drive
San Diego, CA 92121-4362

EMERGENCY TELEPHONE NUMBERS:

(800) 424-9300 (CHEMTREC National)
(703) 527-3887 (CHEMTREC International)
(858) 410-8000 (Gen-Probe Corporate Office)

For technical issues regarding reagents or instrumentation which do not pertain to a hazardous spill, contact Gen-Probe Technical Service at (800) 523-5001 Monday through Friday, 6:00 a.m. to 5:00 p.m. Pacific Time.

2. Composition/Information on Hazardous Ingredients

Component	Synonym	Percent (weight/weight)	CAS number
No hazardous components		>1%	

3. Hazards Identification

Emergency Overview: Not applicable

4. First Aid Measures

Skin contact: Not applicable

Eye contact: Not applicable

Inhalation: Not applicable

Ingestion: Not applicable

5. Fire Fighting Measures

Flashpoint:	Not applicable
Upper and Lower flammable limit:	Not applicable
Flammability classification:	Not applicable
General fire hazard information:	Not applicable
Extinguishing instructions/media:	Not applicable

6. Accidental Release Measures

Containment, treatment, and clean-up procedures:

Not applicable

7. Handling and Storage

Not applicable

8. Exposure Controls/Personal Protection

Ventilation: Not applicable

Protective gloves: Not applicable

Eye protection: Not applicable

Other equipment: Not applicable

9. Physical and Chemical Properties

Physical state, appearance and Odor: Not applicable

Vapor pressure and density, specific density, solubility, pH, etc: Not applicable

Other characteristics: Not applicable

10. Stability and Reactivity

Conditions to avoid: Not applicable

Hazardous decomposition products and polymerization: None

11. Toxicological Information

Not applicable

Not applicable

12. Ecological Information

Ecotoxicity and environmental fate: Data not yet available.

13. Disposal Considerations

Not applicable

14. Transport Information

Proper shipping name and identification number: Not applicable

Hazard class: Not applicable

15. Regulatory Information

The information provided herein represents the most reasonable current information available when this determination was made and is believed to be accurate and dependable. Nevertheless, Gen-Probe Incorporated makes no representation as to the accuracy or sufficiency of this information.

This product, or all the components thereof, is not for internal or external use in humans or animals. Use only as directed on the enclosed package insert. Gen-Probe Incorporated will assume no liability for the improper use of this product by misfeasance or malfeasance, nor will Gen-Probe Incorporated assume liability from any nonfeasance as a result of the use of this product. Good laboratory practices should be observed at all times, including, but not limited to, "universal precautions" and "work practice controls." Skin, mucous membranes, or eyes that come in contact with this product should be washed with plenty of water. If irritation results or persists, get medical attention.

16. Other Information

None

1. Chemical Product and Company Identification

TIGRIS

Product name: APTIMA Assay Fluids Kit

Product description: APTIMA System Fluid Preservative

MSDS number: 301133.385

MANUFACTURER:

Gen-Probe Incorporated
10210 Genetic Center Drive
San Diego, CA 92121-4362

EMERGENCY TELEPHONE NUMBERS:

(800) 424-9300 (CHEMTREC National)
(703) 527-3887 (CHEMTREC International)
(858) 410-8000 (Gen-Probe Corporate Office)

For technical issues regarding reagents or instrumentation which do not pertain to a hazardous spill, contact Gen-Probe Technical Service at (800) 523-5001 Monday through Friday, 6:00 a.m. to 5:00 p.m. Pacific Time.

2. Composition/Information on Hazardous Ingredients

Component	Synonym	Percent (weight/weight)	CAS number
Sodium Hypochlorite	Bleach	2.5%	7681-52-9

3. Hazards Identification

Emergency Overview: This material may be irritating to the skin, mucous membranes, and respiratory system. Contact should be avoided. Do not inhale or take internally.

4. First Aid Measures

Skin contact: Flush with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention, if irritation persists.

Inhalation: Remove to fresh air. No specific treatment is necessary since this material is not likely to be hazardous by inhalation. If exposed to excessive levels of vapors, remove to fresh air and get medical attention if symptoms develop.

Ingestion: This substance may be harmful if swallowed. If swallowed, rinse mouth out with water. Dilute with water or milk. Vomiting may occur spontaneously but do not induce. Seek medical attention immediately..

5. Fire Fighting Measures

Flashpoint:	Not applicable
Upper and Lower flammable limit:	Not applicable
Flammability classification:	Not applicable
General fire hazard information:	Not applicable
Extinguishing instructions/media:	Not applicable

6. Accidental Release Measures

Containment, treatment, and clean-up procedures:

Wear suitable laboratory protective clothing. Dilute with water, if local regulations allow flush to sewer

7. Handling and Storage

Observe good laborartory handling practices. Always wash hands thoroughly after removing protective gloves. Do not mix with household chemicals. Protect from freezing..

8. Exposure Controls/Personal Protection

Ventilation:	General room ventilation is satisfactory.
Protective gloves:	Impervious chemical-resistant gloves.
Eye protection:	Safety glasses and faceshield or goggles.
Other equipment:	Safety shower, eye wash, and other applicable equipment.

9. Physical and Chemical Properties

Physical state, appearance and Odor:	Clear colorless to greenish yellow liquid
Vapor pressure and density, specific density, solubility, pH, etc:	Not applicable
Other characteristics:	Solubility in Water: Infinite, Specigic Gravity: Approx.: 1, pH: Alkaline

10. Stability and Reactivity

Conditions to avoid:	Stable under normal conditions of use and storage. Slowly decomposes on contact with air. Exposure to sunlight
Hazardous decomposition products and polymerization:	Emits toxic fumes of Chlorine when heated to decomposition.

11. Toxicological Information

None found

Refer to the Registry of Toxic Effects of Chemical Substances

12. Ecological Information

Ecotoxicity and environmental fate: No information found

13. Disposal Considerations

Dipose of by means as to comply with Federal, State, and local regulations. This product can generally be sewered, check with locally regulations

14. Transport Information

Proper shipping name and identification number: Environmentally Hazardous Substance, Liquid, n.o.s

Hazard class: DOT Class 9 UN3082

15. Regulatory Information

The information provided herein represents the most reasonable current information available when this determination was made and is believed to be accurate and dependable. Nevertheless, Gen-Probe Incorporated makes no representation as to the accuracy or sufficiency of this information.

This product, or all the components thereof, is not for internal or external use in humans or animals. Use only as directed on the enclosed package insert. Gen-Probe Incorporated will assume no liability for the improper use of this product by misfeasance or malfeasance, nor will Gen-Probe Incorporated assume liability from any nonfeasance as a result of the use of this product. Good laboratory practices should be observed at all times, including, but not limited to, "universal precautions" and "work practice controls." Skin, mucous membranes, or eyes that come in contact with this product should be washed with plenty of water. If irritation results or persists, get medical attention.

16. Other Information

None

Virology Department
SCPMG Regional Reference Laboratories
11668 Sherman Way
North Hollywood, CA-91605
Telephone: 818-503-6852 (tie line 397)
Fax: 818-503-6857 (tie line 397)

facsimile transmittal

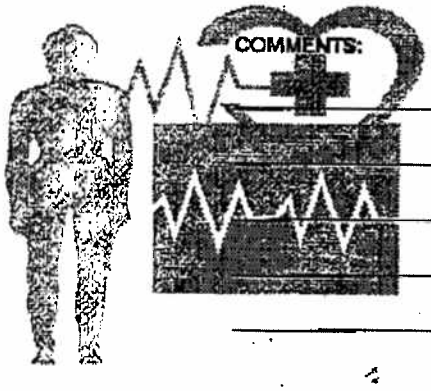
To: BEN Fax: 6913

From: MAWW Date: 11/10/04

Re: MSDS Pages [including cover sheet]:

CC:

☐ Urgent ☑ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle



COMMENTS:

* DEACTIVATION FLUID
* WASH SOLN.
* OIL
* SYSTEM FLUID

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11668 Sherman Way
North Hollywood, CA-91605
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Fax: 818-503-6857 (tie line 397)

facsimile transmittal

To: Richard Weiner/Elaine Jacinto Fax: X6504

From: Date:

Re: Pages [including cover sheet]: 17

CC:

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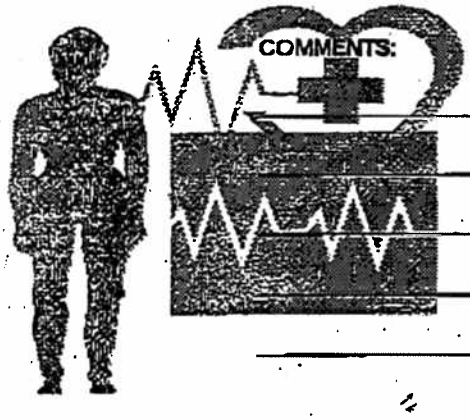

COMMENTS: MSDS for Herpes CSF PCR

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11668 Sherman Way
North Hollywood, CA-91605
Telephone: 818-503-6852 (tie line 397)
Fax: 818-503-6857 (tie line 397)

facsimile transmittal

10-25-04

To: Richard Weier / Elaine Jacinto Fa

From: Michele Hillingsworth Da

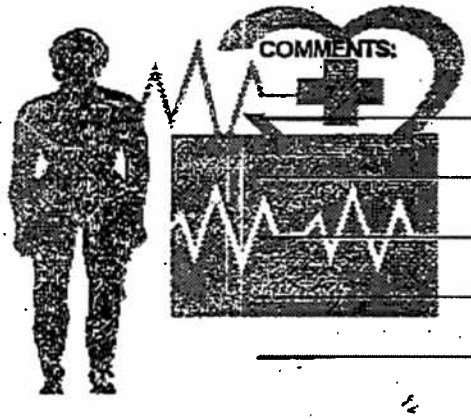
Re: Pa

CC:

☐ Urgent ☐ For Review ☐ Please Comment

Please add to Virology's MSDSs.

Thanks
mj



MSDS's for
- Herpes Eluis
- Sperm Morphology
- ~~Herpes EIE PCR~~

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11658 Sherman Way
North Hollywood, CA-91605
Telephone: 818-503-6852 (tie line 397)
Fax: 818-503-6857 (tie line 397)

facsimile transmittal

To: Richard Weiner / Elaine Jacino Fax: 6504

From: Date:

Re: Pages [including cover sheet]:

CC:

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

COMMENTS:

Enterovirus Amplified assay
Part 1 + 2
Extran Cleaner
200+ proof alcohol
Note: Elaine gave us a waste container to give solutions already

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Material Safety Data Sheets

010407

MATERIAL SAFETY DATA SHEETS

The Material Safety Data Sheet (MSDS) is the most valuable reference source for both the employee and the Chemical Hygiene or Safety Officer. It gives most of the information necessary in evaluating the hazards of chemicals that employees may be exposed to in the workplace. It has been a requirement in California since April 21, 1983, for information and training on hazardous substances to be provided to each employee prior to assignment to any work area in which the employee has not received previous information or training.

Just as each employee's medical record should be preserved and maintained for at least the duration of employment plus thirty years, every MSDS related to an employee exposure in the workplace should be similarly retained and be available on request. The Chemical Hygiene Officer has the responsibility in the clinical laboratory to maintain and update a library of all Material Safety Data Sheets and to provide employee training which must include as a minimum:

1. Any health hazards known to be associated with exposure to the hazardous substance(s).

2. Proper instructions for handling, necessary personal protective equipment or other safety precautions necessary to prevent or minimize exposure to the hazardous substance(s).

3. Emergency procedures to be followed for spills, fire, disposal and first aid.

Material Safety Data Sheets are usually composed of nine sections. These are as follows:

1. **PRODUCT IDENTIFICATION**-which contains the manufacturer's name, address, regular and emergency telephone numbers (including area code) and the trade or common name of the product along with any of its commonly used synonyms.

2. **HAZARDOUS INGREDIENTS**- which contains components of the product identified according to a recognized system of nomenclature. The percentages of hazardous ingredients are often given along with the class of hazard they present such as flammability, reactivity, toxicity, etc. Exposure limit values such as PELs for components of the product are usually listed in this section. Be aware that California exposure limits are many times more restrictive than Federal regulations.

3. **PHYSICAL DATA**- which describes what the material or mixture is like and how it behaves. Included are such characteristics as boiling point, melting point, freezing point, specific gravity, vapor pressure, solubility or vapor density. Its important to know some of these characteristics when handling the hazardous product.

4. **FIRE AND EXPLOSION HAZARD DATA**- which gives flash point, autoignition temperature and lower and upper flammability limits. Knowledge of the lower flammability limit aids in determining the volume of ventilation needed for an enclosed space to prevent fires and explosions. Emergency response information for fighting fires is usually found in this section.

5. **HEALTH HAZARD INFORMATION**- which gives a combined estimate of the hazard of the total product sometimes as a concentration standard in air. Common symptoms of over-exposure are given along with first aid steps to be taken in case of eye or skin contact, inhalation, or ingestion. These are emergency procedures only and the victim should be examined by a doctor as soon as possible after exposure.

6. **REACTIVITY DATA**- which gives the stability of the product under any conditions of storage, handling, use or misuse. Incompatibilities to other common materials or contaminants are listed such as acids reacting to bases. Hazardous decomposition products are detailed as well as the products

propensity to undergo hazardous polymerization, a chemical reaction which gives off an extremely high or uncontrolled release of energy.

7. **SPILL, LEAK AND DISPOSAL PROCEDURES**- which gives precautions to be taken in the event of spills or leaks and equipment, absorbents, or decontaminants to be used. Evacuation protocol or need for special safety personnel will be listed in this section. Waste disposal requirements and procedures will also be detailed. Be aware that local, state and federal regulations may vary and that the most stringent applies.

8. **SPECIAL PROTECTION INFORMATION**-gives appropriate protective equipment to wear when handling the product as well as ventilation requirements to minimize contamination or potential hazardous conditions such as flammable or explosive atmospheric concentrations in the workplace.

9. **SPECIAL PRECAUTIONS**- gives any additional or special precautions not addressed elsewhere in the MSDS. It may also contain reference sources for obtaining additional information as well as the name and address of the responsible person who completed the MSDS and the date the information was compiled.

DISCLAIMER

If unable to locate MSDS for a material, please contact the Solutions department at extension 6840 to obtain MSDS from their Master Files.

For after-hours, contact Security at extension 6562 to gain access to the Solutions department and obtain MSDS from Master Files (green binders above work bench).

KAISER PERMANENTE
Regional Reference Laboratories
11668 Sherman Way, North Hollywood, CA 91605

Environmental Health and Safety
2005 Chemical Inventory: Special Coagulation Department
Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Accent Plus Amino Lotion	Lotion	61048202	Ecolab/Huntington Skin Care	Plastic	540 ml	2	11/5/1998	11/5/1998	No	No	No
A-Fact Human Plasma	see George King Plasma statement	919b1	George King Bio-Medical	Kit	--	0	--	--	No	No	No
Alcohol reagent	--	--	Solutions	Plastic	0.5 L	1	10/11/2004	10/11/2004	Ethyl alcohol	No	No
Alconox Detergent Powder	Powdered precision cleaner	1104	Alconox	Carton	4 lbs	3	10/8/2003	10/8/2003	No	No	No
Arachidonic acid	Lyophilized sodium arachidonate	101297	Bio-Data Corp	Plastic	0.5 ml	3	3/24/2000	3/24/2000	No	No	No
Bacti-Stat Healthcare Personnel Hand Wash	Hand soap	61048722	Ecolab/Huntington Skin Care	Plastic	540 ml	3	12/2/1996	3/20/2001	No	No	No
BIC Wite-Out Quick Dry Correction Fluid	--	WOQD-57511-16	BIC	Plastic	20 ml	0	10/8/1997	6/4/2001	No	No	No
Bleach 10%	--	--	In-house	Plastic	500 ml	1	10/12/2004	10/12/2004	No	No	No
Bleach, Daybright	--	--	Kik International/ Unisource	Plastic	1 gal	2	10/12/2004	10/12/2004	No	No	No
Calcium chloride 0.025M	see Diagnostica Stago Master List; sodium azide	00367	Diagnostica Stago	Kit	--	5	3/1/2002	3/1/2002	No	No	No
Calcium chloride solution	--	ORHO33	Dade Behring	Kit	--	0	5/7/1999	5/7/1999	No	No	No
Calcium chloride solution	--	ORHO37	Dade Behring	Kit	--	10	5/7/1999	5/7/1999	No	No	No
Calibrator HBPM/LMWH	see Diagnostica Stago Master List; MSDS not required	00685	Diagnostica Stago	Kit	--	2	10/1/2001	10/1/2001	No	No	No
Cleaner Solution	see Diagnostica Stago Master List; MSDS not required	00973	Diagnostica Stago	Plastic	2.5 L	12	10/1/2001	10/1/2001	No	No	No
Coagulation S.A.C.1	--	5301	Helena Laboratories	Glass	--	10	--	--	No	No	No
Coagulation S.A.C.2	--	5302	Helena Laboratories	Glass	--	10	--	--	No	No	No
Coagulation S.A.R.P.	--	5185	Helena Laboratories	Kit	--	10	--	--	No	No	No
Coagulation Specimen	Verify Control Plasmas per CAP	CG2-05P	bioMerieux/CAP	Glass	10 ml	0	7/1/1997	7/1/1997	No	No	No
Coagulation Specimen	Verify Control Plasmas per CAP	CG2-05S	bioMerieux/CAP	Glass	10 ml	0	7/1/1997	7/1/1997	No	No	No

010412

2005 Chemical Inventory: Special Coagulation Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Coagulation Specimen	Verify Control Plasmas per CAP	CG2-15P	bioMerieux/CAP	Glass	10 ml	0	7/1/1997	7/1/1997	No	No	No
Coagulation Specimen	Verify Control Plasmas per CAP	CG2-15S	bioMerieux/CAP	Glass	10 ml	0	7/1/1997	7/1/1997	No	No	No
Coatest APC Resistance V, Chromogenix	--	82312063	Chromogenix/ diaPharma	Kit	--	13	5/1/2000	5/1/2000	No	No	No
Collagen	--	--	Bio-Data Corp	--	--	0	3/24/2000	3/24/2000	No	No	No
Comet Cleanser with Chlorinol	Comet/Detergent	0875518-1	Procter and Gamble	Carton	21 oz	1	2/1/2000	6/1/2001	No	No	No
Dade Actin FSL Activated PPT Reagent	--	B4219-2	Dade Behring	Kit	--	7	5/7/1999	5/7/1999	No	No	No
Dade Ci-Trol Coagulation Control Level 1	--	B4244-10	Dade Behring	Kit	--	5	5/7/1999	5/7/1999	No	No	No
Dade Ci-Trol Coagulation Control Level 2	--	B4244-20	Dade Behring	Kit	--	0	5/7/1999	5/7/1999	No	No	No
Dade Ci-Trol Coagulation Control Level 3	--	B4244-30	Dade Behring	Kit	--	5	5/7/1999	5/7/1999	No	No	No
Dade Data-Fi Abnormal Fibrinogen Control	--	B4233-22	Dade Behring	Kit	--	0	5/7/1999	5/7/1999	No	No	No
Dade Innovin	--	B4212-50	Dade Behring	Kit	--	0	5/7/1999	5/7/1999	No	No	No
Dade Owren's Veronal Buffer	--	B4234-25	Dade Behring	Kit	--	0	5/7/1999	5/7/1999	No	No	No
Dade Thrombin Reagent	--	B4233-27	Dade Behring	Kit	--	0	5/7/1999	5/7/1999	No	No	No
Deficient II	see Diagnostica Stago Master List; MSDS not required	00745	Diagnostica Stago	Kit	--	4	10/1/2001	10/1/2001	No	No	No
Deficient IX	see Diagnostica Stago Master List; MSDS not required	00724	Diagnostica Stago	Kit	--	15	10/1/2001	10/1/2001	No	No	No
Deficient V	see Diagnostica Stago Master List; MSDS not required	00744	Diagnostica Stago	Kit	--	9	10/1/2001	10/1/2001	No	No	No
Deficient VII	see Diagnostica Stago Master List; MSDS not required	00743	Diagnostica Stago	Kit	--	5	10/1/2001	10/1/2001	No	No	No
Deficient VIII	see Diagnostica Stago Master List; MSDS not required	C0725	Diagnostica Stago	Kit	--	41	10/1/2001	10/1/2001	No	No	No
Deficient X	see Diagnostica Stago Master List; MSDS not required	00738	Diagnostica Stago	Kit	--	4	10/1/2001	10/1/2001	No	No	No
Deficient XI	see Diagnostica Stago Master List; MSDS not required	00723	Diagnostica Stago	Kit	--	5	10/1/2001	10/1/2001	No	No	No

010413

2005 Chemical Inventory: Special Coagulation Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Deficient XII	see Diagnostica Stago Master List; MSDS not required	00722	Diagnostica Stago	Kit	--	8	10/1/2001	10/1/2001	No	No	No
Desorb U	--	00975	Diagnostica Stago	Kit	--	8	1/11/2001	1/11/2001	No	No	No
Epinephrin	--	--	Bio-Data Corp	--	--	0	3/24/2000	3/24/2000	No	No	No
Fibrinosticon	--	272802	bioMerieux	Kit	--	0	1/30/2003	1/30/2003	No	No	No
Frigoporteur T1, w/ methanol (67-56-1)	see Procold T1	38640/ 1510	Bitrex/Diagnostica Stago/Profroid S.A.	Plastic	1 L	2	4/1/1999	4/1/1999	No	No	No
FXIII Deficiency Plasma	see George King Plasma statement	GK1303-823A1	George King Bio-Medical	Kit	--	0	--	--	No	No	No
Helena Ristocetin	--	5372	Helena Laboratories	Kit	--	14	--	--	No	No	No
Hepanorm H	see Diagnostica Stago Master List; MSDS not required	00684	Diagnostica Stago	Kit	--	3	10/1/2001	10/1/2001	No	No	No
Heparin Control	see Diagnostica Stago Master List; MSDS not required	00683	Diagnostica Stago	Kit	--	5	10/1/2001	10/1/2001	No	No	No
HP Inkjet Print Cartridge 23 Tri-color	Printer color cartridge	C1823D	HP Invent	Plastic	30 ml	0	7/12/2002	7/12/2002	No	No	No
HP Inkjet Print Cartridge 45 Black	Printer cartridge	51645A	HP Invent	Plastic	20 ml	0	6/29/2002	6/29/2002	Carbon black	No	No
Hydrochloric acid 0.1N	--	--	Solutions	Plastic	0.1 L	1	6/2/2005	6/2/2005	No	No	No
Isopropanol 70%	--	--	Solutions	Plastic	0.1 L	1	10/11/2004	10/11/2004	No	No	No
Keri Fast Absorbing Lotion	Lotion	00239	Bristol-Myers Squibb	Plastic	20 ml	0	2/18/2003	2/18/2003	No	No	No
LA Check drVVT Screening Reagent	--	CHK80-10	Precision Biologic Assurance	Kit	--	4	--	--	No	No	No
LA Sure drVVT Confirmatory Reagent	--	SUR25-10	Precision Biologic Assurance	Kit	--	16	--	--	No	No	No
Liatest Control N + P	see Diagnostica Stago Master List; MSDS not required	00526	Diagnostica Stago	Kit	--	4	10/1/2001	10/1/2001	No	No	No
Liatest vWF	see Diagnostica Stago Master List; sodium azide	00518	Diagnostica Stago	Kit	--	10	3/1/2002	3/1/2002	No	No	No
Lupus Positive Control	--	CCLP-10	Precision Biologic Assurance	Kit	--	8	--	--	No	No	No
Lypholized Platelets	--	5356	Helena Laboratories	Kit	--	3	--	--	No	No	No
Methylene blue 0.25%	--	--	Solutions	Plastic	0.1 L	1	10/11/2004	10/11/2004	No	No	No
Neoplastine CI Plus 10	see Diagnostica Stago Master List; sodium azide	00606	Diagnostica Stago	Kit	--	9	3/1/2002	3/1/2002	No	No	No

010414

2005 Chemical Inventory: Special Coagulation Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Nerl Ultra Pure Reagent Grade Water	Water	0015	Nerl Diagnostics	Plastic	480 ml	12	10/9/2001	10/9/2001	No	No	No
Nerl Ultra Pure Reagent Grade Water	Water	--	Nerl Diagnostics	Plastic	1 gal	1	10/9/2001	10/9/2001	No	No	No
Normal Donor Set	--	CCNS-10	Precision Biologic Assurance	Kit	--	22	10/9/2001	10/9/2001	No	No	No
Owren-Koller	see Diagnostica Stago Master List; sodium azide	00360	Diagnostica Stago	Kit	--	5	3/1/2002	3/1/2002	No	No	No
Pooled Normal Plasma	--	CCN-10	Precision Biologic Assurance	Kit	--	4	--	--	No	No	No
PTT A 5	see Diagnostica Stago Master List; MSDS not required	00595	Diagnostica Stago	Kit	--	14	10/1/2001	10/1/2001	No	No	No
Quality HBPM/LMWH	see Diagnostica Stago Master List; MSDS not required	00686	Diagnostica Stago	Kit	--	5	10/1/2001	10/1/2001	No	No	No
Ristocetin	--	5199	Helena Laboratories	--	--	0	--	--	No	No	No
Rotachrom Heparin 4	see Diagnostica Stago Master List; sodium azide	00612	Diagnostica Stago	Kit	--	1	3/1/2002	3/1/2002	No	No	No
Silicone vacuum grease	--	335148	Beckman Instruments	Plastic	20 ml	1	4/26/2005	4/26/2005	No	No	No
Sodium chloride 0.85%	--	--	Solutions	Plastic	250 ml	1	10/11/2004	10/11/2004	No	No	No
Stachrom AT III 3	see Diagnostica Stago Master List; sodium azide	00596	Diagnostica Stago	Kit	--	22	3/1/2002	3/1/2002	No	No	No
Stachrom Heparin	see Diagnostica Stago Master List; sodium azide	00906	Diagnostica Stago	Kit	--	3	3/1/2002	3/1/2002	No	No	No
Staclot LA	see Diagnostica Stago Master List; sodium azide	00600	Diagnostica Stago	Kit	--	12	3/1/2002	3/1/2002	No	No	No
Staclot Protein C	see Diagnostica Stago Master List; MSDS not required	00747	Diagnostica Stago	Kit	--	25	10/1/2001	10/1/2001	No	No	No
Staclot Protein S	see Diagnostica Stago Master List; MSDS not required	00746	Diagnostica Stago	Kit	--	20	10/1/2001	10/1/2001	No	No	No
System Control N + P	see Diagnostica Stago Master List; MSDS not required	00678	Diagnostica Stago	Kit	--	15	10/1/2001	10/1/2001	No	No	No

010415

2005 Chemical Inventory: Special Coagulation Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Thrombin 2	see Diagnostica Stago Master List; MSDS not required	00611	Diagnostica Stago	Kit	--	1	10/1/2001	10/1/2001	No	No	No
Tris Buffered Saline	--	5365	Helena Laboratories	Plastic	125 ml	1	--	--	No	No	No
UHU stic	Glue stick	--	Manco, Inc./ Saunders	Plastic	1.41 oz	1	4/9/2002	4/9/2002	No	No	No
Unicalibrator	see Diagnostica Stago Master List; MSDS not required	00675	Diagnostica Stago	Kit	--	2	10/1/2001	10/1/2001	No	No	No
Urea 5M	Urea water	--	Solutions	Plastic	0.5 L	1	10/11/2004	10/11/2004	No	No	No
Viraguard	--	--	Veridien	--	--	0	11/1/1999	11/1/1999	No	No	No
vWF Calibrator	see Diagnostica Stago Master List; MSDS not required	00520	Diagnostica Stago	Kit	--	1	10/1/2001	10/1/2001	No	No	No

010416

920827-07 MATERIAL SAFETY DATA SHEET

MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-651-222-5352

Ecolab Inc. Healthcare Division
370 Wabasha Street
St. Paul MN 55102
Product Information: 1-800-332-6522 Issue Date: November 5, 1998

1.0 IDENTIFICATION /

1.1 Product Name: ACCENT PLUS AMINO LOTION
1.2 Product Type: Liquid Skin Lotion
1.3 Hazard Rating: Health - 0 Fire - 0 Reactivity - 0

2.0 HAZARDOUS COMPONENTS /

2.1 This product is not considered hazardous according to the criteria of 29 CFR 1910.1200. It does not contain any substance listed in SARA 313. It is not a DOT hazardous material.

3.0 PHYSICAL DATA /

3.1 Appearance: White Lotion; apple fragrance
3.2 Solubility in Water: 90%
3.3 pH: 6.5 - 7.5 (100%)
3.4 Initial Boiling Point: > 212 deg F
3.5 Specific Gravity: 0.982 @ 68 deg F

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: Do not mix with anything else. Use according to label directions.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup and Disposal: Rinse small amounts to the sanitary sewer drain with plenty of water; mop up spills and rinse area thoroughly with water.

Product: ACCENT PLUS AMINO LOTION
Ecolab Inc. Healthcare Division
MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

7.0 HEALTH HAZARD DATA / CAUTION

7.1 Effects of Overexposure to Concentrate:
Eyes: May cause minor irritation.
If Swallowed: May cause irritation, nausea, stomach distress.

8.0 FIRST AID /

8.1 Eyes: Flush immediately with plenty of cool running water. Remove contact lenses, if used, and flush again.
.2 If Swallowed: Rinse mouth; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an unconscious person.

019417

IF IRRITATION OR DISCOMFORT PERSISTS, CALL A PHYSICIAN.

9.0 PROTECTIVE MEASURES /

9.1 No requirements beyond standard industrial hygiene practices.

10.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 Purpose of 11/05/98 issue: QC and editorial update.

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

SOLUTIONS DEPARTMENT
MSDS for REAGENT ALCOHOL, 100%

1 - Site Specific Information

FLAMMABLE STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: 100% REAGENT ALCOHOL

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

- Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/ PRODUCT#
REAGENT ALCOHOL	100.0	N/A	FISHER	A962-4

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	3	2	2	4

SPECIAL HAZARD RATING: FLAMMABLE, POISON

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: **Reagent Alcohol** October 11, 2004

Catalog Numbers:

BW1120200, A962 4, **A962-4**, A962200, A9624, A962F-1GAL, A962P 4, A962P-4, A962P4, A962S 4, A962S-4, A962S4, HC 600 1GAL, HC600 1GAL, HC6001GAL, LC22200, LC222001, LC22210, LC222104, LC22220, LC222204, NC9650491, S79885, FFRRF

Synonyms:

Ethanol, Dehydrated Alcohol; Ethyl Hydrate; Specially Denatured Alcohol.

Company Identification: Biochemical Sciences, Inc.
200 Commodore Drive
Swedesboro, NJ 08085

Packaged by Fisher Scientific
For information, call: 800-524-0294
Emergency Number: 800-524-0294
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
64-17-5	Ethyl alcohol	90.0	200-578-6
67-56-1	Methyl alcohol	5.0	200-659-6
67-63-0	Isopropyl alcohol	5.0	200-661-7

Hazard Symbols: T F
Risk Phrases: 11

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Highly flammable.

Potential Health Effects

Eye:

Causes severe eye irritation. May cause painful sensitization to light.
May cause chemical conjunctivitis and corneal damage.

Skin:

Causes moderate skin irritation. May be absorbed through the skin.
May cause cyanosis of the extremities.

Ingestion:

May be fatal or cause blindness if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systemic toxicity with acidosis. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation:

Causes respiratory tract irritation. May cause visual impairment and possible permanent blindness. May cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation.

Chronic:

Prolonged or repeated skin contact may cause defatting and dermatitis. May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors.
Prolonged exposure may cause liver, kidney, and heart damage.

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**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Effects may be delayed. Ethanol may inhibit methanol metabolism. Treat symptomatically and supportively. Persons with skin or eye disorders or liver, kidney, chronic respiratory diseases, or central and peripheral nervous system diseases may be at increased risk from exposure to this substance.

Antidote:

Ethanol may inhibit methanol metabolism.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:

Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Will be easily ignited by heat, sparks or flame.

Extinguishing Media:

For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage:

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Do not store near perchlorates, peroxides, chromic acid or nitric acid.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use only under a chemical fume hood.

Personal Protective Equipment:

Eyes:

Wear chemical goggles.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR :1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State:	Liquid
Appearance:	clear, colorless
Odor:	aromatic odor
pH:	No data
Vapor Pressure:	44 mm Hg
Vapor Density:	1.24 kg/m3
Evaporation Rate:	No data
Viscosity:	1.2 cp
Boiling Point:	173.3 deg F
Freezing/Melting Point:	-173.4 deg F
Autoignition Temperature:	685 deg F (362.78 deg C)
Flash Point:	55 deg F (12.78 deg C)
Explosion Limits, lower:	3.3 vol %
Explosion Limits, upper:	19 vol %
Decomposition Temperature:	Not available.
Solubility:	Soluble.
Specific Gravity/Density:	0.8
Molecular Formula:	CH3CH2OH
Molecular Weight:	46.0414

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stability unknown. This material may be sensitive to peroxide formation.

Conditions to Avoid:

High temperatures, incompatible materials, ignition sources, excess heat, oxidizers.

Incompatibilities with Other Materials:

Acetyl bromide, alkyl aluminum salts, beryllium dihydride, carbon tetrachloride + metals, chloroform + heat, chloroform + sodium hydroxide, cyanuric chloride, diethyl zinc, nitric acid, potassium-tert-butoxide, strong acids, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), alliphatic amines, isocyanates, chromic anhydride, Oxidants (such as barium perchlorate, bromine, chlorine, hydrogen peroxide, lead perchlorate, perchloric acid, sodium hypochlorite)., perchloric acid, phosphorus trioxide, Attacks some forms of plastics, rubbers, and coatings., active metals, strong oxidizing agents, alkali metals, ammonia, hydrazine, peroxides, sodium, acid anhydrides, calcium hypochlorite, chromyl chloride, nitrosyl perchlorate, bromine pentafluoride, silver nitrate, mercuric nitrate, magnesium perchlorate, acid chlorides, platinum, uranium hexafluoride, silver oxide, iodine heptafluoride, disulfur dichloride, tetrachlorosilane + water, acetyl chloride, permanganic acid, ruthenium (VIII) oxide, uranyl perchlorate, potassium dioxide, halogens, aluminum.

Hazardous Decomposition Products:

Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 64-17-5: KQ6300000
CAS# 67-56-1: PC1400000
CAS# 67-63-0: NT8050000

LD50/LC50:
CAS# 64-17-5: Draize test, rabbit, eye: 500 mg Severe; Draize test, rabbit, eye: 500 mg/24H Mild; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, mouse: LC50 = 39 gm/m3/4H; Inhalation, rat: LC50 = 20000 ppm/10H; Oral, mouse: LD50 = 3450 mg/kg; Oral, rabbit:LD50 = 6300 mg/kg; Oral, rat: LD50 = 7060 mg/kg. CAS# 67-56-1: Draize test, rabbit, eye: 40 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, rat: LC50 = 64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5628 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg. CAS# 67-63-0: Draize test, rabbit, eye: 100 mg Severe; Draize test, rabbit, eye: 10 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 500 mg Mild; Inhalation, rat: LC50 = 16000 ppm/8H; Oral, mouse: LD50 = 3600 mg/kg; Oral, rabbit: LD50 = 6410 mg/kg; Oral, rat: LD50 = 5045 mg/kg; Skin, rabbit: LD50 = 12800 mg/kg.

Carcinogenicity:
Ethyl alcohol -
ACGIH: A4 - Not Classifiable as a Human Carcinogen
Methyl alcohol -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Isopropyl alcohol -
IARC: Group 3 carcinogen

Epidemiology:
Methanol and phenol have been shown to produce fetoxicity in the embryo or fetus in laboratory animals. Specific developmental abnormalities for methanol include the musculoskeletal, urogenital, and cardiovascular systems.

Teratogenicity:
CAS# 64-17-5: Oral, Human - woman: TDLo = 41 gm/kg (female 41 week(s) after conception) Effects on Newborn - Apgar score (human only) and Effects on Newborn - other neonatal measures or effects and Effects on Newborn - drug dependence.

Reproductive Effects:
CAS# 64-17-5: Intrauterine, Human - woman: TDLo = 200 mg/kg (female 5 day(s) pre-mating) Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated).

Neurotoxicity:
No data available.

Mutagenicity:
CAS# 64-17-5: DNA Inhibition: Human, Lymphocyte = 220 mmol/L.; Cytogenetic Analysis: Human, Lymphocyte = 1160 gm/L.; Cytogenetic Analysis: Human, Fibroblast = 12000 ppm.; Cytogenetic Analysis: Human, Leukocyte = 1 pph/72H (Continuous).; Sister Chromatid Exchange: Human, Lymphocyte = 500 ppm/72H (Continuous).

Other Studies:
The hazards associated with methanol may be seen in this product.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3&CFish: Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified)Bacteria: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox testCAS# 64-17-5: When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
Shipping Name: DENATURED ALCOHOL
Hazard Class: 3
UN Number: NA1987
Packing Group: II
Canadian TDG
Shipping Name: DENATURED ALCOHOL
Hazard Class: 3
UN Number: UN1987
Other Information: FLASHPOINT 14C

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 64-17-5 is listed on the TSCA inventory.
CAS# 67-56-1 is listed on the TSCA inventory.
CAS# 67-63-0 is listed on the TSCA inventory.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
Ethyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts. Methyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
Isopropyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
WARNING: This product contains Ethyl alcohol, a chemical known to the state of California to cause birth defects or other reproductive harm.
California No Significant Risk Level:
None of the chemicals in this product are listed.
European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: T F
Risk Phrases:
R 11 Highly flammable.
Safety Phrases:
S 7 Keep container tightly closed.
S 9 Keep container in a well-ventilated place.
S 16 Keep away from sources of ignition - No smoking.
S 33 Take precautionary measures against static discharges.
WGK (Water Danger/Protection)
CAS# 64-17-5: 0
CAS# 67-56-1: 1
CAS# 67-63-0: 1
United Kingdom Occupational Exposure Limits
CAS# 64-17-5: OES-United Kingdom, TWA 1000 ppm TWA; 1920 mg/m3 TWA
CAS# 67-56-1: OES-United Kingdom, TWA 200 ppm TWA; 266 mg/m3 TWA
CAS# 67-56-1: OES-United Kingdom, STEL 250 ppm STEL; 333 mg/m3 STEL
CAS# 67-63-0: OES-United Kingdom, TWA 400 ppm TWA; 999 mg/m3 TWA
CAS# 67-63-0: OES-United Kingdom, STEL 500 ppm STEL; 1250 mg/m3 STEL
Canada

CAS# 64-17-5 is listed on Canada's DSL List.
CAS# 67-56-1 is listed on Canada's DSL List.
CAS# 67-63-0 is listed on Canada's DSL List.
CAS# 64-17-5 is listed on Canada's Ingredient Disclosure List.
CAS# 67-56-1 is listed on Canada's Ingredient Disclosure List.
CAS# 67-63-0 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 64-17-5: OEL-AUSTRALIA:TWA 1000 ppm (1900 mg/m3)
OEL-BELGIUM:TWA 1000 ppm (1880 mg/m3)
OEL-CZECHOSLOVAKIA:TWA 1000 mg/m3;STEL 5000 mg/m3
OEL-DENMARK:TWA 1000 ppm (1900 mg/m3)
OEL-FINLAND:TWA 1000 ppm (1900 mg/m3);STEL 1250 ppm (2400 mg/m3)
OEL-FRANCE:TWA 1000 ppm (1900 mg/m3);STEL 5000 pp
OEL-GERMANY:TWA 1000 ppm (1900 mg/m3)
OEL-HUNGARY:TWA 1000 mg/m3;STEL 3000 mg/m3
OEL-THE NETHERLANDS:TWA 1000 ppm (1900 mg/m3)
OEL-THE PHILIPPINES:TWA 1000 ppm (1900 mg/m3)
OEL-POLAND:TWA 1000 mg/m3
OEL-RUSSIA:STEL 1000 mg/m3
OEL-SWEDEN:TWA 1000 ppm (1900 mg/m3)
OEL-SWITZERLAND:TWA 1000 ppm (1900 mg/m3)
OEL-THAILAND:TWA 1000 ppm (1900 mg/m3)
OEL-TURKEY:TWA 1000 ppm (1900 mg/m3)
OEL-UNITED KINGDOM:TWA 1000 ppm (1900 mg/m3) JAN9
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m3);Skin
CAS# 67-63-0: OEL-AUSTRALIA:TWA 400 ppm (980 mg/m3);STEL 500 ppm (1225 mg/m3)
OEL-BELGIUM:TWA 400 ppm (985 mg/m3);STEL 500 ppm (1230 mg/m3)
OEL-DENMARK:TWA 200 ppm (490 mg/m3);Skin
OEL-FRANCE:STEL 400 ppm (980 mg/m3)
OEL-GERMANY:TWA 400 ppm (980 mg/m3)
OEL-JAPAN:STEL 400 ppm (980 mg/m3)
OEL-THE NETHERLANDS:TWA 400 ppm (980 mg/m3);Skin
OEL-THE PHILIPPINES:TWA 400 ppm (980 mg/m3)
OEL-RUSSIA:STEL 400 ppm (10 mg/m3)
OEL-SWEDEN:TWA 150 ppm (350 mg/m3);STEL 250 ppm (600 mg/m3)
OEL-SWITZERLAND:TWA 400 ppm (980 mg/m3);STEL 800 ppm
OEL-TURKEY:TWA 200 ppm (500 mg/m3)
OEL-UNITED KINGDOM:TWA 400 ppm (980 mg/m3);STEL 500 ppm;Skin
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 6/19/1998 Revision #5 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

To: Solution Department, Sherman Way
From: Special Coagulation Department
Re: MSDS

Please provide the following MSDS for the regent prepared at your office:

1. Sodium Chloride 0.85%
2. Methylene blue, 0.25%
3. Urea 5M 30.03% ~~[illegible]~~ Refrig. 3 yrs
4. Isopropanol, 70%
5. Reagent Alcohol, 100% - SDREAG 95

Thank you very much for your assistance.

ALCONOX

ALCONOX

Section 1 : MANUFACTURER INFORMATION

Product name: Alconox

Supplier: Same as manufacturer.

Manufacturer: Alconox, Inc.
30 Glenn St. Suite 309
White Plains, NY 10603.

Manufacturer emergency phone number: 800-255-3924.
813-248-0573 (outside of the United States).

Manufacturer: Alconox, Inc.
30 Glenn St. Suite 309
White Plains, NY 10603.

Supplier MSDS date: 2003/10/08

D.O.T. Classification:

Not regulated.

Section 2 : HAZARDOUS INGREDIENTS

C.A.S.	CONCENTRATION %	Ingredient Name	T.L.V.	LD/50	LC/50
25155-30-0	10-30	SODIUM DODECYLBENZENESULFONATE	NOT AVAILABLE	438 MG/KG RAT ORAL 1330 MG/KG MOUSE ORAL	NOT AVAILABLE
497-19-8	7-13	SODIUM CARBONATE	NOT AVAILABLE	4090 MG/KG RAT ORAL 6600 MG/KG MOUSE ORAL	2300 MG/M3/2H RAT INHALATION 1200 MG/M3/2H MOUSE INHALATION
7722-88-5	10-30	TETRASODIUM PYROPHOSPHATE	5 MG/M3	4000 MG/KG RAT ORAL 2980 MG/KG MOUSE ORAL	NOT AVAILABLE
7758-29-4	10-30	SODIUM PHOSPHATE	NOT AVAILABLE	3120 MG/KG RAT ORAL 3100 MG/KG MOUSE ORAL >4640 MG/KG RABBIT DERMAL	NOT AVAILABLE

Section 2A : ADDITIONAL INGREDIENT INFORMATION

Note: (supplier).
CAS# 497−19−8: LD50 4020 mg/kg − rat oral.
CAS# 7758−29−4: LD50 3100 mg/kg − rat oral.

Section 3 : PHYSICAL / CHEMICAL CHARACTERISTICS

Physical state: Solid

Appearance & odor: Almost odourless.
White granular powder.

Odor threshold (ppm): Not available.

Vapour pressure (mmHg): Not applicable.

Vapour density (air=1): Not applicable.

By weight: Not available.

Evaporation rate (butyl acetate = 1): Not applicable.

Boiling point (°C): Not applicable.

Freezing point (°C): Not applicable.

pH: (1% aqueous solution).
9.5

Specific gravity @ 20 °C: (water = 1).
0.85 − 1.10

Solubility in water (%): 100 − > 10% w/w

Coefficient of water\oil dist.: Not available.

VOC: None

Section 4 : FIRE AND EXPLOSION HAZARD DATA

Flammability: Not flammable.

Conditions of flammability: Surrounding fire.

Extinguishing media: Carbon dioxide, dry chemical, foam.
Water
Water fog.

Special procedures: Self−contained breathing apparatus required.
Firefighters should wear the usual protective gear.

Auto−ignition temperature: Not available.

Flash point (°C), method: None

Lower flammability limit (% vol): Not applicable.

Upper flammability limit (% vol): Not applicable.

Not available.

Sensitivity to mechanical impact: Not applicable.

Hazardous combustion products: Oxides of carbon (COx).
Hydrocarbons.

Rate of burning: Not available.

Explosive power: None

Section 5 : REACTIVITY DATA

Chemical stability: Stable under normal conditions.

Conditions of instability: None known.

Hazardous polymerization: Will not occur.

Incompatible substances: Strong acids.
Strong oxidizers.

Hazardous decomposition products: See hazardous combustion products.

Section 6 : HEALTH HAZARD DATA

Route of entry: Skin contact, eye contact, inhalation and ingestion.

Effects of Acute Exposure

Eye contact: May cause irritation.

Skin contact: Prolonged contact may cause irritation.

Inhalation: Airborne particles may cause irritation.

Ingestion: May cause vomiting and diarrhea.
May cause abdominal pain.
May cause gastric distress.

Effects of chronic exposure: Contains an ingredient which may be corrosive.

LD50 of product, species & route: > 5000 mg/kg – rat oral.

LC50 of product, species & route: Not available for mixture, see the ingredients section.

Exposure limit of material: Not available for mixture, see the ingredients section.

Sensitization to product: Not available.

Carcinogenic effects: Not listed as a carcinogen.

Reproductive effects: Not available.

Teratogenicity: Not available.

Mutagenicity: Not available.

Synergistic materials: Not available.

Medical conditions aggravated by exposure: Not available.

First Aid

Skin contact: Remove contaminated clothing.
Wash thoroughly with soap and water.
Seek medical attention if irritation persists.

Eye contact: Check for and remove contact lenses.
Flush eyes with clear, running water for 15 minutes while holding eyelids open: if irritation persists, consult a physician.

Inhalation: Remove victim to fresh air.
Seek medical attention if symptoms persist.

Ingestion: Dilute with two glasses of water.
Never give anything by mouth to an unconscious person.
Do not induce vomiting, seek immediate medical attention.

Section 7 : PRECAUTIONS FOR SAFE HANDLING AND USE

Leak/Spill: Contain the spill.
Recover uncontaminated material for re–use.
Wear appropriate protective equipment.
Contaminated material should be swept or shoveled into appropriate waste container for disposal.

Waste disposal: In accordance with municipal, provincial and federal regulations.

Handling procedures and equipment: Protect against physical damage.
Avoid breathing dust.
Wash thoroughly after handling.
Keep out of reach of children.
Avoid contact with skin, eyes and clothing.
Launder contaminated clothing prior to reuse.

Storage requirements: Keep containers closed when not in use.
Store away from strong acids or oxidizers.
Store in a cool, dry and well ventilated area.

Section 8 : CONTROL MEASURES

Precautionary Measures

Gloves/Type:

Neoprene or rubber gloves.

Respiratory/Type:

If exposure limit is exceeded, wear a NIOSH approved respirator.

Eye/Type:

Safety glasses with side–shields.

Footwear/Type: Safety shoes per local regulations.

Clothing/Type: As required to prevent skin contact.

Other/Type: Eye wash facility should be in close proximity.
Emergency shower should be in close proximity.

Ventilation requirements: Local exhaust at points of emission.

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY *(As Used on Label and List)*
ARACHIDONIC ACID

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name Bio/Data Corporation	Emergency Telephone Number 1-800-257-3282
Address *(Number, Street, City, State, and ZIP Code)* 155 Centennial Plaza	Telephone Number for Information 215-441-4000
Horsham, PA 19044	Date Prepared
	Signature of Preparer *(optional)* JE

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% *(optional)*
Arachidonic Acid; 5, 8, 11, 14 Eicosatertraenoic Acid				
Fatty Acid ($C_{20}H_{32}O_2$)				

Section III — Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H_2O = 1)	N/A
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A

Solubility in Water
Highly Soluble

Appearance and Odor
Lyophilized, White Powder, Odorless

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
Non-Flammable N/A			

Extinguishing Media

Special Fire Fighting Procedures

Unusual Fire and Explosion Hazards

010431

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (*Materials to Avoid*)

Hazardous Decomposition or Byproducts

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI — Health Hazard Data

Route(s) of Entry: Inhalation? N/A Skin? N/A Ingestion? in virto use only

Health Hazards (*Acute and Chronic*) NONE

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?

Signs and Symptoms of Exposure

Medical Conditions Generally Aggravated by Exposure NONE

Emergency and First Aid Procedures

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled Universal Precautions

Waste Disposal Method Routine Disposal Methods

Precautions to Be Taken in Handling and Storing Universal Precautions

Other Precautions

Section VIII — Control Measures

Respiratory Protection (*Specify Type*) No Requirements

Ventilation	Local Exhaust	Special
	Mechanical (*General*)	Other

Protective Gloves	Eye Protection

Other Protective Clothing or Equipment Universal Precautions

Work/Hygienic Practices

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BIO/DATA CORPORATION
155 GIBRALTAR ROAD, P. O. BOX 347, HORSHAM, PA 19044-0347 U.S.A.
WORLDWIDE: (215) 441-4000 U.S.A.: (800) 257-3282 FAX: (215) 443-8820
WWW.BIODATACORP.COM E-MAIL: BDC@BIODATACORP.COM

March 24, 2000

May Lee, Senior Tech., 3rd Fl.
Kaiser Permanente Hospital
4950 Sunset Boulevard
Los Angeles, CA 90027

RE: Material Safety Data Sheets

Dear Ms. Lee:

Thank you for your inquiry regarding information on products which you have purchased from Bio/Data Corporation in order to comply with the "Right To Know Act".

The MSDS forms are on products which you requested or for those listed in our files as having been purchased by your institution. Kindly contact us at (800) 257-3282 should you require any more information.

Thank you for your use of our products and we look forward to continuing to serve you.

Very Truly Yours,

BIO/DATA CORPORATION

Anne S. Hearn

Anne S. Hearn
Customer Service Supervisor

Enclosures:

C/N	Description
101562	Collegan
101311	Epinephrine
101297	Arachidonic Acid

010433

920883 MATERIAL SAFETY DATA SHEET

MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-651-222-5352

PROFESSIONAL PRODUCTS ECOLAB INC.
370 WABASHA STREET NORTH
ST. PAUL MN 55102

Product Information: 1-800-247-5362 Issue Date: March 20, 2001

1.0 IDENTIFICATION /

1.1 Product Name: BACTI-STAT
1.2 Product Type: Antibacterial Skin Cleaner
1.3 Hazard Rating: Health: 0 Fire: 0 Reactivity: 0

Substances Subject to SARA 313 Reporting Are Indicated by "#"

2.0 HAZARDOUS COMPONENTS /

	CAS No.	%	PEL (in mg/m3)	TWA (in mg/m3)
2.1 Ethanol (ethyl alcohol)	64-17-5	1-5	1900	1880

2.2 Also contains 0.3% triclosan as the active ingredient.

PEL = OSHA 8 hour average in air TWA = ACGIH 8 hour average in air

3.0 PHYSICAL DATA /

3.1 Appearance: Clear red liquid; fruity fragrance
3.2 Solubility in Water: Mixes with water in all proportions
3.3 pH: 8.4 - 9.4 (at 100%)
3.4 Initial Boiling Point: > 212 deg F / 100 deg C
3.5 Specific Gravity: 1.020 @ 77 deg F / 25 deg C

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None, does not support combustion.
4.2 Fire Fighting Methods: Use method appropriate for surrounding fire.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: Do not mix with other chemicals. Use standard hygiene practices to maintain product integrity.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup and Disposal: Rinse small amounts to the sanitary sewer drain with plenty of water; mop up spills and rinse area thoroughly with water.

7.0 HEALTH HAZARD DATA / CAUTION

7.1 Effects of Overexposure to Concentrate:
Eyes: Causes irritation.
If Swallowed: May cause irritation, nausea, stomach distress.

8.0 FIRST AID /

1 Eyes: Flush with plenty of cool running water. Remove contact lenses, if used, and flush again.
8.2 If Swallowed: Rinse mouth; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an

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unconscious person.

IF IRRITATION OR DISCOMFORT PERSISTS, CALL A PHYSICIAN.

.0 PROTECTIVE MEASURES /

9.1 FOR CONCENTRATE:
No protective equipment is necessary under normal use conditions.

10.0 ADDITIONAL INFORMATION /

10.1 Purpose of 3/20/2001 issue: Correct section 2; QC and editorial update. Replaces December 2, 1996 issue.

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

MATERIAL SAFETY DATA SHEET

Manufacturer

Wite-Out Products, Inc.
145 Southchase Blvd.
Fountain Inn, SC 29644

MSDS Preparer:

SGS U.S. Testing Company, Inc.*
Fairfield, NJ 07004
Tel: (973) 575-5252

*Specific Technical information provided by manufacturer

Date: June 4, 2001
Supersedes: October 8, 1997

Emergency Telephone No.
(800) 424-9300
Information Telephone No.
(203) 783-2103

I. PRODUCT INFORMATION

Identity	:	Wite-Out® For Everything® Correction Fluids (Quick Dry, Extra Coverage, Super Smooth)& Commercial Pack
Chemical Name	:	Not Available (N/A)
Chemical Family	:	N/A
CAS Registry Number	:	N/A
DOT Shipping Name	:	Coating Solution
DOT Hazard Class	:	Flammable Liquid

II. HAZARDOUS INGREDIENTS

		Hazard Information		
Component(s)	**%**	**OSHA PEL**	**ACGIH TLV**	**OTHERS**
Petroleum Naphtha (CAS #64742-48-9)	40	400mg/m^3	400mg/m^3	Flammable

III. PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point,°F	:	204-237
Vapor Pressure (mm Hg)	:	26-49 at 68°F
Vapor Density (Air = 1)	:	volatile components, 3.4 - 4.0 (Estimated)
Solubility in Water	:	Practically Insoluble (0.1 g/L)
Appearance and Odor	:	Free flowing liquid with petroleum solvent odor
Specific Gravity, (H_2O = 1)	:	Correction fluid 1.25
Melting Point	:	-8°F to +8°F
Evaporation Rate (Butyl Acetate = 1)	:	0.89 - 1.08

IV. FIRE AND EXPLOSION HAZARD DATA

Flammable Liquid	:	Can release vapors that form flammable mixture at or above flash point.
Flash Point (Method Used)	:	17-37°F (ASTM D-3828-87)
Flammability Limits in Air, LEL	:	1.7
UEL	:	12.3
Extinguishing Media for Fires	:	CO_2, Foam, Dry Chemical
Special Fire Fighting Procedures	:	Flammable liquid. Wear self-contained breathing apparatus.
Unusual Fire and Explosion Hazards	:	Toxic combustion gas may be formed as decomposition products.

V. REACTIVITY DATA

Stability	:	[ ] Unstable [X] Stable
Conditions to Avoid	:	Heat source, sparks or flame.
Materials to Avoid	:	Strong oxidizing or reducing agents.
Hazardous Decomposition Products	:	Toxic fumes or gases.
Hazardous Polymerization Products	:	[ ] May Occur [X] May Not Occur

VI. HEALTH HAZARD DATA

Carcinogen or Potential Carcinogen	NTP:	IARC:	OSHA:
	N/A	N/A	N/A

Health Hazard (Acute or Chronic)

Skin	:	Not a primary skin irritant per the FHSA.
Eyes	:	Not an eye irritant per the FHSA.
Ingestion	:	Human Ingestion Hazard Not known.
Inhalation	:	Not hazardous under normal use conditions.
Effect of Over Exposure	:	Central nervous system depression; Likely route-inhalation. Deliberately concentrating and inhaling content can lead to unconsciousness and/or death.
Medical Conditions Generally Aggravated by Exposure	:	Existing pulmonary or dermal condition.

Emergency And First Aid Procedures

Skin	:	Wash with soap and water. Consult physician if irritation occurs and persists.
Eyes	:	Wash with water for at least 15 minutes, holding eye lids open. Consult physician if irritation occurs.
Ingestion	:	Consult physician at once. Do not induce vomiting.
Inhalation	:	Remove victim from exposure. Alert emergency medical personnel. Administer artificial respiration if breathing is stopped.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Spill or Leak Procedures	:	Handle as flammable liquid and dispose of properly. Ventilate area.
Disposal Recommendations	:	Dispose in accordance with local, state, and federal regulations.
Storage and Handling Recommendations	:	Store and transport in closed container. Store in ventilated area. Avoid heat, fire and fumes.
Other Precautions	:	Keep away from children.

VIII. CONTROL MEASURES

Respiratory Protection	:	NIOSH/MSHA approved respirator with organic vapor cartridge if exposure limits are exceeded when handling bulk. None necessary under normal use conditions.
Ventilation	:	[ ] Local [X] Mechanical [ ] Special [ ] Other
Protective Gloves	:	Chemical resistant gloves when handling bulk. None necessary under normal use conditions.
Eye Protection	:	Not required except when handling bulk.
Other Protection Equipment or Clothing	:	None required.
Work Hygiene Practice	:	Standard good industrial hygiene practice recommended.

IX. REGULATORY INFORMATION

California Proposition 65	:	This product complies with the labeling requirement of the California Safe Drinking Water and Toxic Enforcement Act of 1986.
TSCA	:	The components in this product are listed on the TSCA inventory.
Others	:	This product does not contain chemicals known to deplete the ozone layer.

Wite Out Products, Inc. and SGS U.S. Testing Company Inc., the preparer of this MSDS, believe that the information contained herein (including data and statements) is accurate as of the date hereof. NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE AS CONCERNS THE INFORMATION HEREIN PROVIDED. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and the information referred to herein are beyond the control of Wite Out Products, Inc. and SGS U.S. Testing Company Inc., the preparer of this MSDS, (references to Wite Out Products, Inc. and SGS U.S. Testing Company Inc., the preparer of this MSDS, including its divisions, affiliates, and subsidiaries), Wite Out Products, Inc. and SGS U.S. Testing Company Inc., the preparer of this MSDS, expressly disclaim any and all liability as to any results obtained or arising from any use of the product or such information. No statement made herein shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents.

SOLUTIONS DEPARTMENT
MSDS for BLEACH 10%

1 - Site Specific Information

STORE AT ROOM TEMPERATURE KEEP AWAY FROM THE SUN AND METALS

2 - Section I - General Information

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: BLEACH, 10% OR SODIUM HYPOCHLORITE, 10%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
SODIUM HYPOCHLORITE	10.0	7681-52-9	KIK INTERNATIONAL	40A4421
DI-WATER	90.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X			1	1	0	0

SPECIAL HAZARD RATING: IRRITANT, DECOMPOSITION PRODUCTS-HYDROGEN CHLORIDE GAS CHLORINE, SODIUM/SODIUM OXIDE

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3-6 MONTHS

MATERIAL SAFETY DATA SHEET

SECTION 1 -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	Daybright Bleach	PACK	6 / 1 gal.
PRODUCT CODE	1100085		

ISSUE DATE	10-04-00

EMERGENCY TELEPHONE NUMBERS

MANUFACTURER	**KIK International**	**Transportation: (800) 255-3924 ***
STREET ADDRESS	**2921 Corder Street**	*** For spill, leak, fire or transport accident emergencies.**
CITY, STATE, ZIP	**Houston, Texas 77054**	**Product Information: (713) 747-8710**

SECTION 2 -- COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT * -- (see note below)	CAS No.	% by wt.	EXPOSURE LIMITS OSHA PEL	ACGIH TLV	NIOSH REL
Sodium hypochlorite	7681-52-9	5.00 - 5.60	None (see next entry)	None (see next entry)	None (see next entry)

*** -- Asterisked ingredients are those considered hazardous according to the criteria of 29CFR 1910.1200. Other ingredients are listed for informational purposes to assist emergency medical response personnel.**

SECTION 3 -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	**Corrosive; may cause severe skin and eye irritation or chemical burns to broken skin. Vapors extremely irritating to eyes and respiratory tract. Harmful and potentially fatal if swallowed.**
POTENTIAL HEALTH EFFECTS	
INGESTION	Can cause corrosion of mucous membranes, severe esophageal burns and perforation of esophagus or stomach.
INHALATION	Inhalation of vapors can cause bronchial irritation, coughing, difficulty in breathing, nausea and pulmonary edema.
EYE CONTACT	Corrosive to the eyes; may cause severe and permanent damage.
SKIN CONTACT	Severe irritant; contact can produce blistering and eczema.

SECTION 4 -- FIRST AID MEASURES

INGESTION	If swallowed, DO NOT induce vomiting. Immediately drink a large quantity of water. Do not use acidic antidotes or sodium bicarbonate (baking soda). **Call a physician or poison control center immediately.**
INHALATION	If exposed to excessive vapor levels, remove to fresh air and seek medical attention if cough or other symptoms develop.
EYE CONTACT	Immediately flush eye with plenty of cool, running water. Remove contact lenses if applicable, and continue flushing for at least 15 minutes. **Get medical attention immediately.**
SKIN CONTACT	Flush affected skin area with copious amounts of water and wash with soap and water. If irritation develops or persists, get medical attention. Remove clothing and wash before reuse.
NOTE TO PHYSICIAN	Information pertaining to ingestion toxicology, therapy, symptomatology and treatment can be found in Clinical Toxicology of Commercial Products, authored by Gosselin, Smith and Hodge and published by Williams & Wilkins, Baltimore, Maryland. **See listing for Hypochlorite in Therapeutics Index, Section III.**

SECTION 5 -- FIRE FIGHTING MEASURES

FLASH POINT / METHOD	None / N.A.	FLAMMABLE LIMITS	Not flammable or combustible
EXTINGUISHING MEDIA	If involved in a fire, alcohol foam, carbon dioxide, dry chemical or water fog. Use extinguishing media that is appropriate for surrounding fire.		
SPECIAL FIRE FIGHTING PROCEDURES	Avoid fumes from spilled or exposed liquid. Firefighters should wear full protective clothing and OSHA/NIOSH self-contained breathing apparatus. Cool fire-exposed containers with water spray from a safe distance.		
FIRE AND EXPLOSION HAZARDS	Sodium hypochlorite bleach is a strong oxidizing agent and decomposes when heated. Decomposition products may cause containers to explode. Vigorous reactions may occur with organic materials or oxidizable materials, causing fires.		

SECTION 6 -- ACCIDENTAL RELEASE MEASURES

RESPONSE TO SPILLS	Small spills: Dilute product by flooding area with large quantity of water and flush to sanitary sewer. Large spills: Contain run-off by diking with suitable material. Soak up liquid on inert absorbent and transfer to approved container. Prevent spill from entering sewers or waterways.

SECTION 7 -- HANDLING AND STORAGE

HANDLING PRECAUTIONS	Wash after handling and before eating. Use personal protective equipment and wear suitable chemical-resistant clothing. Keep container tightly closed when not in use. Follow label directions closely.
STORAGE PRECAUTIONS	Store upright in a cool (below 85 F), dry, well-ventilated area. Keep away from heat or direct sunlight. Separate from incompatible materials, such as acids, ammonia, soap-based products or organic materials. Protect containers from physical damage. Keep away from children.

SECTION 8 -- EXPOSURE CONTROLS / PERSONAL PROTECTION

HYGIENIC PRACTICES	**Avoid breathing vapors.** Do not store near food stuffs, water or feed. Protect eyes, skin and clothing from contact with this product.
ENGINEERING CONTROLS	Use local ventilation to remove vapors at the source. **Facilities using this product must be equipped with an eyewash station.**

PERSONAL PROTECTIVE EQUIPMENT

X	RESPIRATOR	Not normally necessary; use NIOSH approved respirator for concentrated vapors
X	GOGGLES / FACE SHIELD	**Required**; goggles should be chemical splash type. Face shield also helpful.
X	APRON	Recommended to avoid skin contact and protect clothing from damage
X	GLOVES	**Required**; use impervious PVC or Neoprene with long gauntlet
X	BOOTS	Recommended to protect shoes and feet when using product for floor cleaning

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Clear pale yellow liquid	BOILING POINT	212 deg F
ODOR	Chlorine	FREEZING POINT	28 deg F
pH	12.0 - 12.8	VAPOR PRESSURE	17.5 mm Hg @ 20 C
SPECIFIC GRAVITY	1.080	VAPOR DENSITY	Not applicable
SOLUBILITY IN WATER	Complete	EVAPORATION RATE	Not applicable

SECTION 10 -- STABILITY AND REACTIVITY

CHEMICAL STABILITY		STABLE	X		UNSTABLE	
CONDITIONS TO AVOID	Heat or direct sunlight; temperatures above 85 F. **Do not mix with solutions containing ammonia.**					
INCOMPATIBILITY	Acids, ammonia, ether, urea, oxidizable materials, soaps, oils, greases, phenolic disinfectants and metals (including nickel, copper, tin, aluminum and iron.					
HAZARDOUS PRODUCTS OF DECOMPOSITION	Chlorine gas -- from contact with highly acidic materials. Chloramines -- from contact with ammonia. Polychlorinated phenols -- from contact with phenolic disinfectants.					
POLYMERIZATION		WILL NOT OCCUR	X		MAY OCCUR	
CONDITIONS TO AVOID	Not applicable					

SECTION 11 -- TOXICOLOGICAL INFORMATION

CARCINOGENICITY

	THIS PRODUCT CONTAINS A KNOWN OR SUSPECTED CARCINOGEN
X	**THIS PRODUCT DOES NOT CONTAIN ANY KNOWN OR ANTICIPATED CARCINOGENS ACCORDING TO THE CRITERIA OF THE NTP ANNUAL REPORT ON CARCINOGENS AND OSHA 29 CFR 1910, Z**

OTHER EFFECTS

ACUTE	Toxicity arises from corrosive activity; stems from oxidizing potency, a function of concentration
CHRONIC	Not determined

SECTION 12 -- ECOLOGICAL INFORMATION

BIODEGRADABILITY		CONSIDERED BIODEGRADABLE	X	NOT BIODEGRADABLE	
BOD / COD VALUE	Not established				
ECOTOXICITY	This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, ocean, or public waters unless this product is specifically identified and addressed in an NPDS permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact State Water Board or Regional Office of the EPA.				

SECTION 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD	If in accordance with an NPDES permit or approved by local sewage treatment plant authority, small amounts may be flushed to a sanitary sewer with plenty of water. Large amounts of unused product must be disposed of as hazardous waste at an approved hazardous waste management facility.							
RCRA CLASSIFICATION	Hazardous, corrosive D002 (if pH is equal to or greater than 12.5)							
RECYCLE CONTAINER		YES	X		CODE	2 – HDPE		NO

SECTION 14 -- TRANSPORT INFORMATION

DOT CLASSIFICATION		HAZARDOUS		NOT HAZARDOUS	X
DESCRIPTION	Non-Regulated				
DOT HM CODE	None				

SECTION 15 -- REGULATORY INFORMATION

REGULATORY STATUS

X	EPA REGISTERED (UNDER FIFRA)	70271-3
	FDA REGULATED	
	KOSHER	
X	SARA TITLE III MATERIAL	Sodium hydroxide & Sodium hypochlorite (Section 304)
	USDA AUTHORIZED	
X	CANADA WHMIS	Controlled Product, Class E - Corrosive Material

SECTION 16 -- OTHER INFORMATION

NFPA CLASSIFICATION

2	BLUE	HEALTH HAZARD
0	RED	FLAMMABILITY
1	YELLOW	REACTIVITY
OX	WHITE	SPECIAL HAZARD

Information contained in this MSDS refers only to the specific material designated and does not relate to any process or use involving other materials. This information is based on data believed to be reliable, and the Product is intended to be used in a manner that is customary and reasonably foreseeable. Since actual use and handling are beyond our control, no warranty, express or implied, is made and no liability is assumed by KIK International in connection with the use of this information.

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
Fax: +49 (6421) 39-4977
eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
ORHO33	Calcium Chloride - 0.025M

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010445

Helena Laboratories

1530 LINDBERGH DRIVE
PO BOX 752
BEAUMONT TX 77704-0752
Toll Free 800-231-5663
Local 409-842-3714

FAX (Orders Only) 409-842-9561
FAX (General) 409-842-6241

NINO RODONAIA
MSDS Evaluator

PRODUCT NAME:__Coagulation S.A.C.-1__

PRODUCT CATALOG NUMBER:__5301_____

The above product contains no hazardous or carcinogenic chemicals in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the product should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

Nino Rodonaia
MSDS Evaluator

REFERENCES

1. Occupational Safety and Health Administration, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List
5. Florida Substance List

Helena Laboratories

1530 LINDBERGH DRIVE
PO BOX 752
BEAUMONT TX 77704-0752
Toll Free 800-231-5663
Local 409-842-3714

FAX (Orders Only) 409-842-9561
FAX (General) 409-842-6241

NINO RODONAIA
MSDS Evaluator

PRODUCT NAME:__Coagulation S.A.C. - 2_____

PRODUCT CATALOG NUMBER:__5302_____

The above product contains no hazardous or carcinogenic chemicals in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the product should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

Nino Rodonaia
MSDS Evaluator

REFERENCES

1. Occupational Safety and Health Administration, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
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PO BOX 752
BEAUMONT TX 77704-0752
Toll Free 800-231-5663
Local 409-842-3714

FAX (Orders Only) 409-842-9561
FAX (General) 409-842-6241

NINO RODONAIA
MSDS Evaluator

PRODUCT NAME:__Coagulation S.A.R.P._____

PRODUCT CATALOG NUMBER:__5185_____

The above product contains no hazardous or carcinogenic chemicals in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the product should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

Nino Rodonaia
MSDS Evaluator

REFERENCES

1. Occupational Safety and Health Administration, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List
5. Florida Substance List

COAGULATION SPECIM. CG1 CG2

MATERIAL SAFETY DATA SHEET

VERIFY® CONTROL PLASMAS

Organon Teknika Corporation
100 Akzo Avenue
Durham, North Carolina 27712
Telephone No. 1-800-682-2666
Fax No. (919) 620-2107

Date Prepared: July 1, 1997

SECTION 1: PRODUCT IDENTIFICATION

Product Name:	Verify® 1	Product Code: 59566/59612
	Verify® 2	Product Code: 59567/59611
	Verify® 3	Product Code: 59568/59610
	Verify® 2&3	Product Code: 59575
	Verify® H	Product Code: 34124
	Verify® Low Fibrinogen Control	Product Code: 35506

Product Class: Coagulation Test Reagent
Product Description: Lyophilized human plasma for use as a control to monitor thrombosis and hemostasis assays.
Products Components: Vials containing lyophilized buffered human plasma.

SECTION 2: HAZARDOUS INGREDIENTS

This product contains human plasma, a blood component.

SECTION 3: HEALTH HAZARD INFORMATION

Handle human source blood components as if capable of transmitting infectious agents. The human source material used in these products has been tested using FDA licensed methods and found to be nonreactive for the presence of HIV-1 and HIV-2 antibodies, Hepatitis B surface antigen (HBsAg) and HCV antibody. However, as no test method can offer complete assurance that infectious agents are absent, all human source material should be handled as potentially infectious.

SECTION 4: FIRST AID

If ingestion occurs, flush mouth with water without swallowing. Seek medical attention. If eye contact occurs, flush with plenty of water. Seek medical attention. If skin contact occurs, wash skin with plenty of water. If skin is broken or material enters an open wound, seek medical attention.

SECTION 5: FIRE FIGHTING

This product should present no unusual fire or explosion hazards. Use fire fighting procedures which are appropriate for surrounding fire.

SECTION 6: SPILL AND LEAK INFORMATION

All spills should be cleaned up promptly. Always wear proper personal protective equipment. Treat spills as biohazardous. Dispose of all cleaning materials following your institution's procedures for biohazardous waste disposal.

SECTION 7: HANDLING AND STORAGE

Store at 2-8 degrees C. See package insert for details on product expiration.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Handle this product as if capable of transmitting infectious agents. Do not pipette this product by mouth. Do not smoke, eat or drink in areas where this product is handled. Avoid direct contact by using proper personal protective equipment such as gloves, laboratory coat and facial protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

This material consists of lyophilized buffered human plasma.

SECTION 10: REACTIVITY

Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

Not applicable.

SECTION 12: ECOLOGICAL CONSIDERATIONS

No information currently available.

SECTION 13: DISPOSAL CONSIDERATIONS

Follow your institution's procedures for biohazardous waste disposal.

SECTION 14: TRANSPORTATION INFORMATION

Not regulated.

SECTION 15: REGULATORY INFORMATION

These materials are not considered "hazardous" under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, since biological materials are excluded under this Standard.

The OSHA Bloodborne Pathogens Standard, 29 CFR 1910.1030 applies where there is occupational exposure to blood or other potentially infectious materials, therefore, employees should comply with this Standard when handling these products.

SECTION 16: OTHER INFORMATION

We believe the information contained above, is to the best of our knowledge, accurate as of the date of this document. Organon Teknika Corporation provides this information in good faith as a guide to safe handling, and shall not be held liable for damages resulting from the use of this information or the product to which it applies.

BIOMÉRIEUX

facsimile transmittal

To: ELAINE JACINTO	**From: Susan Bertuccelli**
	Date: 11-16-04
	Number of pages including cover sheet: 3
	Phone: 1-800-682-2666 1-905-947-8118 (Canada)
Fax No.: 818-503-6937 7015	**Fax No.:** 1-800-968-9494

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Confidential**

Notes:

100 Rodolphe Street • Durham, NC 27712 • Tel: 919 620-2000
www.biomerieux-usa.com

CHROMOGENIX

REAGENT SAFETY DATA SHEET

1. IDENTIFICATION OF PRODUCT AND COMPANY

This Reagent Safety Data Sheet applies to:

Product name	Kit Congfiguration	Code
COATEST® APC™ Resistance-V	V-DEF Plasma 4 x 4 mL CaCl2 1 x 8 mL APTT reagent 1 x 16 mL APC/CaCl2 4 x 2 mL Control Plasma Lev. 1 1 x 1 mL Control Plasma Lev. 2 1 x 1 mL	823120-63

Distributor : Chromogenix - Instrumentation Laboratory S.p.A. - Viale Monza, 338 - 20128 Milan
Tel. +39-02-25221 Fax +39-02-2575250
+39-02-2522884 +39-02-2522889

2 COMPOSITION - Information on ingredients

INGREDIENT NAME	CONCENTRATION PERCENT BY WEIGHT
-CaCl2:	
Calcium Chloride Dihydrate CAS No.: 10035-04-8 EINECS No.: 233-140-8 Hazard Classification: Xi (as raw material) Risk Code: R36 R36: irritating to eyes Safety Code: S 22-24	0.36
Tris-hydroxymethyl-aminomethane CAS No.: 77-86-1 EINECS No. : 201-064-4 Hazard Classification: Xi (as raw material) Risk Code: R36-37-38 R36: irritating to eyes R37: irritating to respiratory system R38: irritating to skin Safety Code: S 26 -36	0.03
Tris-hydroxymethyl-aminomethane hydrochloride CAS No.: 1185-53-1 EINECS No. : 214-684-5 Risk Code: R36-37-38 R36: irritating to eyes R37: irritating to respiratory system R38: irritating to skin Safety Code: S 26 -36	0.16

2 COMPOSITION - Information on ingredients

INGREDIENT NAME (ctd.)	CONCENTRATION PERCENT BY WEIGHT
Bovine Albumin	0.5
-APTT reagent:	
Ciprofloxacin hydrochloride CAS No.: 93107-08-5	0.001
-APC/CaCl2:	
Human Activated Protein C	
Bovine Albumin	0.5
Calcium Chloride Dihydrate CAS No.: 10035-04-8 EINECS No.: 233-140-8 Hazard Classification: Xi (as raw material) Risk Code: R36 R36: irritating to eye Safety Code: S 22-24	0.36
Tris-hydroxymethyl-aminomethane (same as for CaCl2)	0.026
Tris-hydroxymethyl-aminomethane hydrochloride (same as for CaCl2)	0.16

-V-DEF Plasma:

Stabilized, Lyophilized Human Plasma

-Control Plasma Level 1:

Treated Human Plasma (Lyophilized)

-Control Plasma Level 2:

Treated Human Plasma (Lyophilized)

3. HAZARD IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYES

CaCl2 / APTT reagent / APC-CaCl2: may cause irritation.
V-DEF Plasma / Control Plasma Level 1-2 : none known.

SKIN
CaCl2 / APTT reagent / APC-CaCl2: may cause irritation.
V-DEF Plasma / Control Plasma Level 1-2: none known.

INGESTION
CaCl2 / APTT reagent / APC-CaCl2: may be harmful if swallowed.
V-DEF Plasma / Control Plasma Level 1-2: none known.

INHALATION
CaCl2 / APTT reagent / APC-CaCl2: may cause irritation to the mucous membranes and upper respiratory tract.
V-DEF Plasma / Control Plasma Level 1-2: none known.

4. FIRST AID MEASURES

EYES
CaCl2 / APTT reagent / APC-CaCl2 / V-DEF Plasma / Control Plasma Level 1-2:
in case of eye contact, flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation develops.

SKIN
CaCl2 / APTT reagent / APC-CaCl2 / V-DEF Plasma / Control Plasma Level 1-2:
wash well with soap and water. Remove contaminated clothing and launder before use. If irritation persists, get medical attention

INGESTION
CaCl2 / APTT reagent / APC-CaCl2 / V-DEF Plasma / Control Plasma Level 1-2:
flush mouth with water, without swallowing .Get medical attention or contact the local Poison Control Center.

INHALATION
CaCl2 / APTT reagent / APC-CaCl2:
remove the individual to fresh air. If breathing is difficult give oxygen. Get medical attention.
V-DEF Plasma / Control Plasma Level 1-2:
none normally required.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT
LOWER EXPLOSIVE LIMIT (%): N/A
UPPER EXPLOSIVE LIMIT (%): N/A

FIRE AND EXPLOSION HAZARDS:
None known.

EXTINGUISHING MEDIA
Use any extinguishing agent which is suitable for the surrounding fire.

FIRE FIGHTING INSTRUCTIONS
Wear self-contained breathing apparatus and protective clothing that is appropriate for fighting a typical fire involving chemical materials.

6. ACCIDENTAL RELEASE MEASURES .

Contain spill by placing a suitable absorbent material around the edges of the spill and work inward. Carefully scoop up into appropriate waste container for disposal.

7. HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS

All kit reagents are stable until the expiration dates shown on the labels when stored at 2-8 °C.

Human Activated Protein C / V-DEF Plasma / Control Plasma Level 1-2
CAUTION: All blood products should be treated as potentially infectious.
Source material from which this product was derived was found negative when tested in accordance with FDA required tests. No known test method can offer assurance that products derived from human blood will not transmit infectious agents. Handle as if capable of transmitting infectious agents.

WORK/HYGIENIC PRACTICES
Wash hands with soap and water after use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls
None normally required.

Eye/Face protection
Safety glasses or splash goggles are recommended.

Skin Protection
Wear rubber or plastic gloves and other protective clothing as required to prevent skin contact.

Respiratory Protection
None normally required with adequate ventilation.

Other/General Protection
None normally required.

9. PHYSICAL AND CHEMICAL PROPERTIES

	CaCl2	APTT reagent	APC/CaCl2
Appearance:	liquid	liquid	lyophilized powder
Colour:	colourless	colourless	white
Odour:	odourless	odourless	odourless
Density:	N/A	N/A	N/A
pH:	7.5 at 25°C	7.4 at 25°C	7.5 at 25°C

	Control Plasma Level 1-2	V-DEF Plasma
Appearance:	lyophilized powder	lyophilized powder
Colour:	white – yellowish	yellowish
Odour:	odourless	odourless
Density:	N/A	N/A
pH:	7.5 at 25°C	7.5 at 25°C

BASIC PHYSICAL PROPERTIES
VAPOUR PRESSURE: not determined
SPECIFIC GRAVITY: not determined
SOLUBILITY (H20): not determined

10. STABILITY AND REACTIVITY

STABILITY: stable

CONDITIONS TO ALLOW (STABILITY)
See Insert Sheet.

INCOMPATIBLE MATERIALS
-Calcium Chloride: methyl vinyl ether, zinc .
-Tris-hydroxymethyl-aminomethane: copper, brass, aluminum and oxidizing materials.
-Ciprofloxacin hydrochloride: oxidizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS
-CaCl2: oxides of carbon , nitrogen and toxic chlorine fumes may be formed during thermal decomposition.
-APTT reagent: oxides of carbon, nitrogen may be formed during thermal decomposition.
-APC/CaCl2: oxides of carbon , nitrogen and toxic chlorine fumes may be formed during thermal decomposition.
-V-DEF Plasma, Control Plasma Level 1-2: none known.

HAZARDOUS POLYMERIZATION: will not occur

11. TOXICOLOGICAL INFORMATION

MISCELLANEOUS TOXICOLOGICAL INFORMATION

-Tris-hydroxymethyl-aminomethane: orl-rat LD50 5900 mg/kg . No toxic effected noted. (NIOSH).

-Calcium Chloride: ipr-musLD50 20500 mg /Kg; orl-rat LD50 1000 mg/Kg (anhydrous form); mutagenic and tumorogenic data (anhydrous form) (NIOSH).

The health effects noted above are based on the extrapolation of data on the pure product ingredients. To the best of our knowledge, no health effects have been identified for the product mixture under normal conditions of use, although the health effects of the product have not been thoroughly investigated.

12. ECOLOGICAL INFORMATION

OTHER ENVIRONMENTAL INFORMATION

Calcium Chloride dry: effect toxic to fish (5100 mg/L) and crustacean (990 mg/L).

Use in accordance with good laboratory practice. Do not waste in the environment.

13. DISPOSAL CONSIDERATIONS

Based on EEC Directive No. 75/442 and 78/319 and following modifications, the product waste is classified as non-toxic and non-harmful.
Dispose of in accordance with local regulations.
Used waste products, surplus products or spillage products shall be disposed of in accordance with national and local laws. It is up to the user to classify the waste correctly prior to disposal.

14. TRANSPORT INFORMATION

None.

15. REGULATORY INFORMATION

This product is classified and labelled in accordance with EEC Directive 88/379 and EEC Directive 91/155 and following modifications. The health hazard classification has been determined based on composition and hazard data of each ingredient.
Physical and health hazard information on the reagent mixture has not been determined.
Any physical and health hazard information noted is based on a) evaluation of data of the pure ingredient and b) concentration of each ingredient.

Kit Hazard Classification

- EEC Symbol: N/A
- Risk Code: N/A
- Safety Code: S24/25 - 29 – 36
- S24/25: avoid contact with skin and eyes.
  S29: do not empty into drains.
  S36: wear suitable protective clothing.

16. OTHER INFORMATION

REFERENCE DOCUMENTATION

Primary references used in the preparation of this document

1. Product Insert

NOTE

The information supplied in this Safety Data Sheet represents the data and best information available at the date of preparation . It is provided with the aim of allowing proper and safe use, storage, transport and disposal of the product. It is not to be considered as a warranty or specification of product quality. It is related to the materials specifically indicated and does not apply if these are used in combination with other materials or during processes not specifically indicated in the text of this Safety Data Sheet.

Rev.	Date	Drawn by
0	May 2000	A. Lavezzari

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY *(As Used on Label and List)*
Collagen

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name BIO/DATA CORPORATION	Emergency Telephone Number 1-800-257-3282
Address *(Number, Street, City, State, and ZIP Code)* 155 Centennial Plaza	Telephone Number for Information 215-441-4000
Horsham Pa 19044	Date Prepared
	Signature of Preparer *(optional)*

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% *(optional)*
Soluble calf skin collagen				

Section III — Physical/Chemical Characteristics

Boiling Point	N/A	Specific Gravity (H_2O = 1)	N/A
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A

Solubility in Water
Slowly soluble

Appearance and Odor
Lyophilized white chrystalline powder ; oderless

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
NON FLAMMABLE			

Extinguishing Media

Special Fire Fighting Procedures

Unusual Fire and Explosion Hazards

010458

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (*Materials to Avoid*)

Hazardous Decomposition or Byproducts

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI — Health Hazard Data

Route(s) of Entry: Inhalation? none Skin? none Ingestion? for in vitro use only

Health Hazards (*Acute and Chronic*)

Carcinogenicity: NTP? IARC Monographs? OSHA Regulated?

Signs and Symptoms of Exposure

Medical Conditions
Generally Aggravated by Exposure

Emergency and First Aid Procedures

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled
Universal Precaution

Waste Disposal Method
Routine Laboratory Disposal Method

Precautions to Be Taken in Handling and Storing
Universal Precautions

Other Precautions

Section VIII — Control Measures

Respiratory Protection (*Specify Type*) none

Ventilation	Local Exhaust	Special
	Mechanical (*General*)	Other

Protective Gloves | Eye Protection

Other Protective Clothing or Equipment

Work/Hygienic Practices

* U.S.G.P.O.: 1986-491-529/45775

010459

Procter & Gamble
CPG TN 6
2 Procter & Gamble Plaza
Cincinnati, OH 45202

MATERIAL SAFETY DATA SHEET

Issue Date: 6/01
Supersedes: 2/1/00 Issue Date: N/A

SECTION I - CHEMICAL PRODUCT

Identity: **Disinfectant Powder Cleanser**

Brands: **COMET Disinfectant Cleanser with Chlorinol (Professional Line)**

Hazard Rating: 1

Health: 1
Flammability:
Reactivity:

4=EXTREME
3=HIGH
2= MODERATE
1=SLIGHT

Emergency Telephone Number: - 1-800-332-7787 or call Local Poison Control Center

SECTION II - COMPOSITION AND INGREDIENTS

Ingredients/Chemical Name: Bleach, cleaning agents (calcium carbonate, sodium carbonate, anionic surfactants), quality control agents, perfume, color. Comet Disinfectant Cleanser with Chlorinol contains no phosphorus.

Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200.

Chemical Name	Common Name	CAS No.	Recommended Limits	Composition Range	LD50/LC50
Calcium carbonate	Limestone	1317-65-3	ACGIH TWA: 10mg/m^3 (total dust) / 5 mg/m^3 (respirable dust) OSHA PEL: 15 mg/m^3	60-100%	NA/NA
Silica, quartz	Quartz (naturally occurring component of limestone)	14808-60-7	ACGIH TWA: 0.1mg/m^3 (respirable dust) OSHA TWA: 0.1 mg/m^3	0.1-1%	9 g/kg/NA

SECTION III - HAZARDS IDENTIFICATION

Health Hazards (Acute and Chronic):

Ingestion: Mild mucous membrane irritant. May result in gastrointestinal irritation with nausea, vomiting and diarrhea.

Eye Contact: Mild eye irritant. Direct contact with eye may result in superficial, temporary irritation similar to those produced by other household detergents.

Skin: Mild skin irritant. Prolonged skin contact or direct contact with eye may result in superficial, temporary irritation similar to those produced by other household detergents.

Inhalation: Mild respiratory irritant. Unusually high exposures may cause coughing or irritation of nose and throat.

SECTION IV - FIRST AID INFORMATION

Emergency and First Aid Procedures:

Ingestion: Dilute with fluids and treat symptomatically.

Eye Contact: For accidental eye contact, flush thoroughly with water for 15 minutes.

Skin: Wash with soap and water and discontinue use.

Inhalation: For accidental, high level inhalation, remove to fresh air. Get medical attention if coughing persists.

Other: Product package has a caution statement: CAUTION: KEEP OUT OF REACH OF CHILDREN. May cause eye irritation. In case of eye contact, flush thoroughly with water. If irritation persists, see a physician. If swallowed, drink a glass of water to dilute. Do not mix with other products especially toilet bowl cleansers and products that contain ammonia.

SECTION V - FIRE FIGHTING INFORMATION

Flash Point (Method Used): N/A **Explosive Limits**: *LEL:* N/A *UEL*: N/A

Extinguishing Media: Use CO_2, water, or dry chemical.

Special Fire Fighting Procedures: None required.

Unusual Fire Hazards : None known.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: None

Environmental Precautions: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. Product contains biodegradable surfactant. If permitted, flush small quantities down sewer drain with large excess of water or dispose of at landfill.

Steps To Be Taken in Case Material is Released or Spilled: Vacuum to remove spill and place in trash container for disposal or flush with water. Do not dry sweep.

SECTION VII - HANDLING AND STORAGE

Precautions To Be Taken in Handling and Storing: Avoid moisture when storing to prevent loss of bleaching action and to prevent caking.

Other Precautions: None required.

SECTION VIII - EXPOSURE CONTROLS, PERSONAL PROTECTION

Respiratory Protection (Specify Type): None required with normal use. For bulk handling or other dusty conditions, use respiratory protection approved by NIOSH for dust.

Ventilation *Local Exhaust*: None required with normal use. *Special*: None

Mechanical (General): Acceptable. *Other*: None

Eye Protection: None required with normal consumer use.

Manufacturing: For splash protection, use chemical goggles.

Protective Gloves: None required with normal use.

Other Protective Equipment: None required with normal use.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point ° F: N/A	**Specific Gravity (H_2O=1):** ca. 1
Vapor Pressure (mm Hg): N/A	**Percent Volatile by Volume (%):** ca. 1
Vapor Density (Air=1): N/A	**Evaporation Rate (nBuOAc=1):** N/A
Odor Threshold: N/A	**Freezing Point:** N/A
Coefficient of Water/Oil Distribution: N/A	**pH (1% solution):** N/A
Scooped Density: N/A	**Solubility in Water:** Moderately
Appearance and Odor: Green powder, cedar pine scent.	**Reserve Alkalinity:** N/A

SECTION X - STABILITY AND REACTIVITY

Possible Hazardous Reactions/Conditions: None known

Conditions to Avoid: None

Materials to Avoid: Ammonia and acids

Hazardous Decomposition Products: Chlorine gas

Stability Stable

Hazardous Polymerization: Will not occur

Other Recommendations: None

SECTION XI - TOXICOLOGICAL INFORMATION

Calcium carbonate, an ingredient of this product, contains small amounts of crystalline silica (quartz) as a naturally occurring impurity. Prolonged, excessively high exposures to respirable crystalline silica may result in reduced lung function in some individuals. IARC has found sufficient evidence to classify crystalline silica as a carcinogen in animals, but there is limited evidence in humans.

LD50 (rats oral): 9 g/kg

ED50: 0.23 g/kg

Product as a whole:

CARCINOGENICITY: None known

SENSITIZATION EFFECTS: None known

REPRODUCTIVE EFFECTS: None known

SYNERGISTIC EFFECTS: None known

SECTION XII - ECOLOGICAL INFORMATION

No concerns

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: Product contains biodegradable surfactant. If permitted, flush small quantities down sewer drain with large excess of water or dispose of at landfill. DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION XIV - TRANSPORT INFORMATION

DOT Classification: Not regulated. Not DOT hazardous.

SECTION XV - ADDITIONAL REGULATORY INFORMATION

All components are listed on the US TSCA Inventory. No components are affected by Significant New Use Rules (SNURs) under TSCA §5.

This product is an EPA registered pesticide EPA Reg. No.# 3573-51

No components of Comet are subject to California Proposition 65.

All ingredients are CEPA approved for import to Canada by Procter & Gamble. This product has been classified with Hazard Criteria of the Canadian Control Products Regulation (CPR) and this MSDS contains all information required by the Canadian Products Regulation.

SECTION XVI - OTHER INFORMATION

*N/A. - Not Applicable *N/K. - Not Known

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific material designated herein, and does not relate to the use in combination with any other material or any other process. Procter & Gamble assumed no responsibility for injury to the recipient or third persons, for any damage to any property resulting from misuse of the controlled product.

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
Fax: +49 (6421) 39-4977
eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
B4219-2	Actin® FSL

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010464

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
Fax: +49 (6421) 39-4977
eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
B4244-10	Ci-Trol® Coagulation Control Level 1

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010465

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
Fax: +49 (6421) 39-4977
eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
B4244-20	Ci-Trol® Coagulation Control Level 2

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010466

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
Fax: +49 (6421) 39-4977
eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
B4244-30	Ci-Trol® Coagulation Control Level 3

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010467

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
Fax: +49 (6421) 39-4977
eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
B4233-22	Abnormal Fibrinogen Control

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010468

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
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eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
B4212-50	Innovin®

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010469

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
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eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
B4234-25	Owren's Veronal Buffer

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010470

DADE BEHRING

DADE BEHRING MARBURG GMBH
Regulatory Affairs Diagnostics
P.O. Box 11 49
D-35001 Marburg
Germany

Phone: +49 (6421) 39-3017
Fax: +49 (6421) 39-4977
eMail: schnei11@msmbwma.hoechst.com

May 7, 1999

Dade Behring Customer

Dear Sirs,

The following Dade Behring products have been evaluated with respect to the presence of hazardous ingredients as defined by the OSHA Hazard Communication Rule 29 CFR Section 1910.1200 and have been found not to require a product Material Safety Data Sheet (MSDS).

Catalog Numbers	Product Name
B4233-27	Thrombin Reagent

Kind regards,

Martin Schneider
Regulatory Affairs Diagnostics

010471

DIAGNOSTICA STAGO

MATERIAL SAFETY DATA SHEET

1. Product Identification:

Trade Name:	**STA® DESORB U Cat. #00975**
Manufactured by:	DIAGNOSTICA STAGO[?] 9, rue des Freres Chausson P. O. Box 226 92602 Asnieres Cedex (France) Telephone: (33) 1-46-88-20-20 Telecopy: (33) 1-47-91-08-91

2. Information on Ingredients

Box containing 24 x 15ml bottles of aqueous chemical solution containing potassium hydroxide (KOH) at a concentration of less than 1%.
CAS number: 1310-58-3.

3. Hazard Identification

Irritating when in contact with skin and eyes at the concentration being used (KOH < 1%), irritating to respiratory and digestive tracts. Releases a toxic gas when in contact with acids. Can cause burns.

4. First-Aid Measures

Contact with eyes:	Wash eyes immediately with copious quantities of water for at least 15 minutes while maintaining eyelids open. See an ophthalmologist.
Contact with skin:	Remove contaminated clothing; wash skin with copious quantities of water.
Inhalation:	Make individual inhale fresh air. In case of suffocation, perform mouth-to-mouth resuscitation: in case of breathing difficulties, apply oxygen mask.
Ingestion:	If individual is conscious, make drink water copiously and do not induce vomiting (risk of perforation). See a physician.

In case of accidental spillage or if individual feels unwell, see a physician immediately. 010472

5. Fire-Fighting Measures

In case of fire, toxic vapors may emanate by decomposition: chlorine, potassium oxides, carbon oxides. Use fire extinguishers or appropriate fire-fighting equipment.

6. Accidental Release Measures

Mop up all spills, transfer materials into an appropriate container for waste disposal. Then Wash the affected area with plenty of water after all the materials have been removed.

7. Handling and Storage

Keep bottles tightly capped and store at 2?- 8?C away from light. Open and handle bottles carefully. Do not smoke, drink or eat when near reagent.

8. Exposure Control and Personal Protection

Wear laboratory coat, gloves, goggles and protective mask.

9. Physical and Chemical Properties

Aqueous solution

10. Stability and Reactivity

When stored at 2?- 8?C in original intact bottles and protected from light, the solution is stable until the expiry date printed on the box label. Once opened, and with an STA? maxi Reducer installed on the bottle, the solution is stable for 5 days on board STA? analyzers (15? - 20?C)

The solution may react vigorously with acids, reducing agents, strong oxidizing agents, ammonium compounds (with liberation of ammonia), halogen compounds (especially halogen oxides), non-metallic oxides, nitro-organic compounds and metals (with liberation of hydrogen). However, considering the very low concentrations of the chemical ingredients present in STA? DESORB U, no extreme reactions are to be expected.

11. Toxicological Information

Contact with skin, eyes, respiratory and digestive tracts may induce irritations or even burns. Contact with eyes may cause corneal injury; contact with the digestive tract may cause perforation. However, considering the very low concentrations of the chemical ingredients present in STA? DESORB U, no extreme reactions are to be expected.
The solution can induce: coughing, breathing difficulties, dizziness.

12. Ecological Information

Eco-toxicological data is not available.
Do not disperse waste materials into the environment.

13. Disposal Considerations

Waste materials must be disposed of according to existing regulations.

14. Transportation Information

Intact tightly capped bottles may be shipped according to existing regulations.

15. Regulatory Information

Risk advise: R36/38 – Irritating to eyes and skin
Safety advices: S26 – In case of contact with eyes, wash eyes immediately with plenty of water and seek medical advice.
S37/39 – Wear suitable gloves and eye/face protection.
S45 – In case of accidental spillage or malaise is felt, seek medical attention immediately (where possible, show product label to medical personnel.)

Symbol: X Irritant
XI

16. Other Pertinent Information

This product is intended for use only as an agent for the decontamination of STA? analyzers. DIAGNOSTICA STAGO? assumes no responsibility in case of inappropriate use.

This Material Safety Data Sheet (MSDS) is a complement to the product insert but does not replace it. The information contained herein has been compiled from data presented in various technical sources; it is believed to be accurate and constitutes our best knowledge at the present time. DIAGNOSTICA STAGO? makes no warranties and assumes no liability in connection with the use of this information or in case of inappropriate handling of this product. Users should strictly respect the instructions provided in the product insert.

It is the user's responsibility to determine the suitability of this information and to ensure that all safety precautions are taken.

January 11, 2001

DIAGNOSTICA STAGO

Five Century Drive
Parsippany, NJ 07054
1-800-222-COAG

MSDS Master List

This sheet provides a master list of products for which the manufacturer provides Material Safety Data Sheets (MSDS). A letter in the appropriate column indicates the required MSDS for each product. The MSDS for the products you requested are attached.

❑ D = Desorb U	❑ S = Sodium Azide
❑ O = OPD	❑ U = Urea Hydrogen Peroxide
❑ R = REPTILASE	❑ P = Procold T1 (for refrigeration fluid)

		MSDS Required								MSDS Required				
CAT. #	DESCRIPTION	P	D	O	R	S	U	CAT. #	DESCRIPTION	D	O	R	S	U
0111	CYTOQUANT Gp					S		0417	ASSERA® VII				S	
0112	CYTOQUANT GpIIb/IIIa OCCUPANCY					S		0427	ASSERA®-PLATE PROTEIN S				S	
0180	ASSERACHROM® PROTEIN Z			O			U	0428	ASSERA® PROTEIN S				S	
0240	ASSERACHROM® vWF			O			U	0445	ASSERACHROM® THROMBOMODULIN		O			U
0241	ASSERACHROM® VII:AG			O			U	0454	D-DI TEST				S	
0242	ASSERACHROM® IX:AG			O			U	0511	D-DI LATEX				S	
0243	ASSERACHROM® X:AG			O			U	0512	D-DI BUFFER				S	
0244	ASSERACHROM® PROTEIN C			O			U	0515	STA® LIATEST® D-DI				S	
0245	ASSERACHROM® PROTEIN S TOTAL			O			U	0516	STA® LIATEST FREE PROTEIN S				S	
0246	ASSERACHROM® PROTEIN S FREE			O			U	0518	STA® LIATEST® vWF				S	
0247	ASSERACHROM® D-DI			O			U	0525	ASSERA® PLASMINOGEN				S	
0248	ASSERACHROM® tPA			O			U	0538	SPLI-PREST®			R	S	
0249	ASSERACHROM® PAI-1			O			U	0540	FDP PLASMA				S	
0250	ASSERACHROM® β-TG			O			U	0541	FDP PLASMA LATEX				S	
0252	ASSERACHROM® APA			O			U	0551	FDP PLASMA BUFFER				S	
0253	ASSERACHROM® APA IgG, M			O			U	0568	LIATEST® AT III				S	
0258	ASSERACHROM® PF4			O			U	0570	LIATEST® PROTEIN S				S	
0261	ASSERACHROM TOTAL TFPI			O			U	0575	ASSERACHROM® VIIIC:Ag		O			U
0262	ASSERACHROM FREE TFPI			O			U	0580	ASSERACHROM® HPIA -48 TEST		O			U
0279	POLYETHYLENE GLYCOL	P						0581	LIATEST® C4B-BP				S	
0349	ASSERA® V					S		0583	LIATEST® β2GPI				S	
0360	STA® OWREN KOLLER BUFFER					S		0594	STACLOT® LA 2				S	
0367	STA® CALCIUM CHLORIDE					S		0596	STA® STACHROM® AT III 3				S	
0377	ASSERA® X					S		0597	STA C.K. PREST 5				S	
0378	ASSERA® AT III					S		0600	STACLOT® LA				S	
0379	ASSERA® C4B-BP					S		0605	STA® -NEOPLASTINE® CI 5				S	
0380	ASSERA® WF					S		0606	STA® -NEOPLASTINE® CI PLUS 5				S	
0382	ASSERA® XIII-S					S		0612	STA® -ROTACHROM® HEPARIN 4				S	
0383	ASSERA® FI					S		0614	STA® REPTILASE REAGENT			R		
0384	ASSERA® 2 ANTIPLASMIN					S		0631	ASSERACHROM® PIVKA-II		O			
0385	ASSERA® D					S		0659	STA® STACHROM® ANTIPLASMIN				S	
0386	ASSERA® E					S		0660	STA® ROTACHROM® LMWH 4				S	
0389	ASSERA® XIII-A					S		0661	STA® ROTACHROM® LMWH 8				S	
0390	ASSERA® HEPARIN COFACTOR II					S		0666	STA® NEOPLASTINE® CI 10				S	
0394	ASSERA® II					S		0667	STA® NEOPLASTINE® CI + 10				S	
0395	ASSERA® IX					S		0780	FDP TUBE			R		
0396	ASSERA® PROTEIN C					S		0851	STACHROM® HEPARIN COFACTOR II				S	
0402	ASSERA® FIBRONECTIN					S		0857	FS TEST				S	
0403	ASSERA® B-TG					S		0887	FS TEST UNIT				S	
0406	ASSERA® HRGP					S		0906	STACHROM® HEPARIN				S	
0416	ASSERA® PF4					S		0975	STA® DESORB U	D				

The products noted above are items for which MSDS are available. The presence of products on this list does not guarantee their availability. Additional MSDS may be obtained upon request by calling our Technical Service Department at 800-222-COAG (800-222-2624), extension 7.

DIAGNOSTICA STAGO
Five Century Drive
Parsippany, NJ 07054
1-800-222-COAG

Reagents Not Requiring MSDS

This sheet provides a master list of reagents for which Material Safety Data Sheets (MSDS) are not required. In addition to these items, MSDS are not required for accessories, spare parts, disposables and test cards unless otherwise noted.

CAT #	DESCRIPTION	CAT #	DESCRIPTION
0115	CBS 00.68	0675	STA® UNICALIBRATOR
0128	CBS 00.65	0678	STA® SYSTEM CONTROL N+P
0138	CBS 02.46	0679	STA® COAG CONTROL N+P
0184	GLOBAL FIBRINOLYTIC CAPACITY (MANUAL & STA)	0683	STA® HEPARIN CONTROL
0281	STACLOT® VIIA-rTF	0684	STA® HEPANORM® H
0387	PURIFIED FRAGMENT D	0685	STA® HEPANORM® HBPM/LMWH
0388	PURIFIED FRAGMENT E	0686	STA® HBPM/LMWH CONTROL
0392	PURIFIED β2-GP1	0722	STA® DEFICIENT XII
0460	PURIFIED FACTOR V	0723	STA® DEFICIENT XI
0461	PURIFIED VWF	0724	STA® DEFICIENT IX
0462	PURIFIED FACTOR X	0725	STA® DEFICIENT VIII
0463	PURIFIED HEPARIN COFACTOR II	0738	STA® DEFICIENT X
0464	PURIFIED PROTEIN S	0743	STA® DEFICIENT VII
0465	PURIFIED FACTOR XIII-A	0744	STA® DEFICIENT V
0468	PURIFIED HRGP	0745	STA® DEFICIENT II
0474	PURIFIED FACTOR XIII-S	0746	STA® STACLOT® PROTEIN S
0509	D-DI POS. CONTROL	0747	STA® STACLOT® PROTEIN C
0510	D-DI NEG. CONTROL	0811	CBS 31.39
0519	PURIFIED FIBRINOGEN	0820	APROTININ
0520	STA® vWF CALIBRATOR	0823	ECARIN
0526	STA® LIATEST® CONTROL N+P	0828	PURIFIED APC
0552	PURIFIED PLASMINOGEN	0829	PURIFIED PA
0557	PURIFIED PROTHROMBIN	0830	HIRUDIN
0595	STA® PTT AUTOMATE 5	0832	ACPC
0599	PTT-LA	0853	STACHROM® PAI
0611	STA® THROMBIN 2	0854	FIBRI-PREST® AUTOMATE 5
0613	FIBRI-PREST® AUTOMATE 2	0873	CBS 34.47
0618	THROMBIN-PREST	0888	PURIFIED HUMAN AT III
0620	PURIFIED PLATELET FACTOR 4	0896	PURIFIED THROMBIN
0623	PURIFIED PROTEIN C	0912	PURIFIED HUMAN FACTOR Xa
0658	STA® STACHROM® PLASMINOGEN	0960	PURIFIED PLASMIN
0668	STA® PTT-LT 5	0963	PURIFIED THROMBOGLOBULIN
0669	STA® THROMBIN 10	0970	PURIFIED FACTOR IXa
0671	STA® STACHROM® PROTEIN C	0973	STA® CLEANER SOLUTION
0674	STA® FIBRINOGEN 5		

The products noted above are items for which MSDS are not required. The presence of products on this list does not guarantee their availability.

A list of products requiring MSDS may be obtained by calling our Technical Service Department at 800-222-COAG (800-222-2624), extension 7.

DIAGNOSTICA STAGO

SODIUM AZIDE
MATERIAL SAFETY DATA SHEET

Formula: NaN_3
Very poisonous product

Physical characteristics
MW:65
Cas No.:26628-22-8
It is solid at 20? C, white or slightly colored
Soluble in water (at 20? C:417 g/L)
Insoluble in usual organic solvents
Density at 20? C: 1.84 g/cm^3

Labelling according to EEC regulations
Hazard symbol:T+
Risk phrases:R28-32
Very toxic if swallowed
Contact with acids liberates very toxic gas
Safety advices:S28
After contact with skin, wash immediately with plenty of water

Storage and manipulation
?? Store sheltered from humidity and heat.
?? Recommended packaging material: glass.
?? Proscribed packaging material: metal.
?? Dangerous reactions with acids (H_2SO_4, HNO_3) and heavy metals (Cu, Pb).
In acid solution, production of hydrazoic acid (HN_3).
?? Manipulate the product with gloves, safety glasses, mask, protective clothes.
?? Spillages: sweep up in tight container and widely wash the contaminated area with water.

Fire and explosion precautions
?? Hazardous decomposition products: toxic fumes of nitrogen oxides.
?? Risk of explosion with metals.

Toxicology
Very toxic in case of ingestion.
?? In mouse the LD_{50} by oral route - 27 mg/kg
?? In mouse the LD_{50} by intra-peritoneal route - 18 mg/kg

First aid

In case of contact with skin:	remove the contamined clothes; immediate, copious and prolonged (minimum 15 minutes) washing with water.
In case of contact with eyes:	Immediate and prolonged (15 minutes) washing with water, the eyes being wide opened.
In case of ingestion:	call for emergency medical assistance

DIAGNOSTICA STAGO

ORTHO-PHENYLENEDIAMINE (OPD)
MATERIAL SAFETY DATA SHEET

Formula	$C_6H_8N_2$ A toxic product

Physicochemical Characteristics

?? Molecular weight	: 108.1
?? Classification number	: 95-54-5
?? Appearance	: White to brownish yellow solid at 20? C
?? Melting point	: 103?-104? C
?? Boiling point	: 256?-258? C
?? Solubility	: Slightly soluble in water Freely soluble in alcohol, chloroform, ether
?? Effects of light	: Product turns brown
?? Incompatibilities	: Oxidizing agents

Storage and Handling

- ?? Store in a cool, dry place, protected from light
- ?? Keep in tightly closed container
- ?? Handle product with great care: use resistant gloves, safety glasses, appropriate respirator
- ?? Use only in a chemical hood; do not inhale dust; no eating or drinking
- ?? Avoid all contacts with skin; wash hands thoroughly after handling
- ?? In case of spillage, wear protective clothing and appropriate respirator, sweep and mop up all spilled product; then wash the contaminated area with copious quantities of water.

Fire and Explosion Prevention

- ?? Avoid hazardous combustion or decomposition products: toxic fumes of carbon oxides, nitrogen oxides.
- ?? Avoid inflammable products.
- ?? Extinguish fires with water spray, carbon dioxide; wear self-supporting breathing apparatus and protective clothing to prevent contact with skin and eyes.

Toxicology

- ?? Toxic if ingested
- ?? Toxic if in contact with skin
- ?? Harmful if inhaled
- ?? May be teratogenic as well as carcinogenic
- ?? In mice the LD_{50} of OPD, 2HC1 by intra-peritoneal route is 200 mg/kg body weight
- ?? In rats the LD_{50} of OPD, 2HC1 by intra-peritoneal route is 290 mg/kg body weight

First Aid

In case of contact with skin	: Take off and discard contaminated clothing and shoes. Wash immediately with copious quantities of water for at least 15 minutes.
In case of contact with eyes	: Immediate and prolonged (at least 15 minutes) washing with water. Seek opthalmologist's care.
In case of inhalation	: Get fresh air. Get medical check-up.
In case of ingestion	: Get emergency medical treatment.

DIAGNOSTICA STAGO

MATERIAL SAFETY DATA SHEET

1. Product Identification

Trade Name	:	**Urea Hydrogen Peroxide** Included as a component reagent in ASSERACHROM? kits
Manufactured by	:	DIAGNOSTICA STAGO? 9, Rue Des Freres Chausson P. O. Box 226 92602 Asnieres Cedex (France) Telephone: (33) 1-46-88-20-20 Telecopy: (33) 1-47-91-08-91

2. Information on Ingredients

Molecular formula	:	$CH_6N_2O_3$
CAS Number	:	124-43-6

Tablet containing 5 mg urea peroxide as a source of hydrogen peroxide.

3. Hazard Identification

Irritating to eyes, skin and respiratory tract.

4. First-Aid Measures

Contact with eyes:	Flush immediately with copious quantities of water for at least 15 minutes while maintaining eyelids open. See an ophthalmologist.
Contact with skin:	Remove contaminated clothing, flush skin with copious quantities of water. Consult a physician.
Inhalation:	Transfer individual to fresh air. In case of breathing difficulties, see a physician.
Ingestion:	If individual is conscious, rinse mouth with water. See a physician.

MATERIAL SAFETY DATA SHEET
Urea Hydrogen Peroxide Tablet

5. Fire-Fighting Measures

Use sprayed water, CO_2, powder or foam extinguisher.
In case of fire, material decomposes and leads to production of toxic fumes containing carbon and nitrogen oxides.

6. Accidental Release Measures

Vacuum clean, sweep and mop up all spills and transfer materials into appropriate container for waste disposal.
Ventilate the room and wash the affected area with plenty of water after all the materials have been removed.

7. Handling and Storage

Store tablets at 2^0- 8^0 C in their original intact packagings.
Avoid contact with eyes and skin. Do not inhale. Handle tablets with care.
Wash hands carefully after handling tablets.

8. Exposure Control and Personal Protection

Wear laboratory coat, gloves, goggles and protective mask.
Do not eat, drink or smoke when near the reagent.

9. Physical and Chemical Properties

Water soluble tablets

10. Stability and Reactivity

The reagent remains stable in its original intact packaging until the expiry date printed on the ASSERACHROM kit box label, when stored at 2^0- 8^0 C.
When dissolved together with the OPD (ortho-phenylenediamine) tablet, the OPD / urea hydrogen peroxide solution is stable for 1 hour at room temperature (18^0- 25^0 C).

11. Toxicological Information

Harmful if inhaled, ingested or in contact with skin.
Irritating to skin, eyes, mucous membranes and respiratory tract.

12. Ecological Information

Eco-toxicological data are not available.
Do not disperse waste materials into the environment.

MATERIAL SAFETY DATA SHEET
Urea Hydrogen Peroxide Tablet

13. Disposal Considerations

Waste materials must be disposed of according to existing regulations

14. Transportation Information

Intact kits may be shipped according to existing regulations.

15. Regulatory Information

Considering the very small hydrogen peroxide contents of each tablet, no particular recommendations are applicable with respect to European regulations.

16. Other Pertinent Information

This Material Safety Sheet (MSDS) is a complement of the product insert but does not replace it.

The information contained herein has been compiled from data presented in various technical sources; it is believed to be accurate and constitutes our best knowledge at the present time. DIAGNOSTICA STAGO makes no warranties and assumes no liability in connection with the use of this information or in case of inappropriate handing of his product. Users should strictly respect the instructions provided in the product insert.

It is the user's responsibility to determine the suitability of this information and to ensure that all safety precautions are taken.

DIAGNOSTICA STAGO

REPTILASE®
MATERIAL SAFETY DATA SHEET

Reptilase? is a thrombin-like enzyme from Bothrops atrox venom. The generic name of the active substance is batroxobin (E.C. 3.4.21.29) of molecular weight about 42,000 - 43,000.

PHARMACOLOGICAL EFFECTS

Batroxobin converts fibrinogen into fibrin by specific cleavage of Arg-Gly bonds in the ? chain which leads to the release of fibrinopeptide A, whereas the ? chain of fibrinogen remains unaffected. Parental administration of batroxobin leads to a dose-depending hypofibrinogenaemia; batroxobin is progressively inhibited by $?_2$ macroglobulin; other physiological proteinase-inhibitors do not inhibit batroxobin. Batroxobin is not absorbed by mucous membranes. Following oral uptake, batroxobin is decomposed in the gastro-intestinal tract to inactive, low-molecular fragments.

The LD_{50} I.V. of batroxobin in male mice amounts to 142 (124-162) Batroxobin Units per kg bodyweight.

PRECAUTIONARY MEASURES

As a foreign protein, batroxobin should neither be ingested nor inhaled, nor should it be brought in contact with the eyes or open wounds. If parenteral uptake of batroxobin (abuse) is suspected, a monitoring of the patient's blood coagulation status is recommended.

THERAPY

Hardly probable, minor bleedings due to hypofibrinogenaemia following parenteral uptake of batroxobin may be stopped by the usual local measures. A reduced fibrinogen level of less than 90 mg/dl (only possible in case of abuse) increases without therapeutic measures to the normal range of over 150 mg/dl again within 1-2 days.

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY *(As Used on Label and List)*
Epinephrine

Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name BIO/DATA CORPORATION	Emergency Telephone Number 1-800-257-3282
Address *(Number, Street, City, State, and ZIP Code)* 155 Centennial Plaza	Telephone Number for Information 215-441-4000
Horsham , Pa 19044	Date Prepared
	Signature of Preparer *(optional)*

Section II — Hazardous Ingredients/Identity Information

Hazardous Components (Specific Chemical Identity; Common Name(s))	OSHA PEL	ACGIH TLV	Other Limits Recommended	% *(optional)*
Dl-Hydroxy Benzyl Alcohol				

Section III — Physical/Chemical Characteristics

Boiling Point	[illegible]	Specific Gravity (H_2O = 1)	[illegible]
Vapor Pressure (mm Hg.)		Melting Point	215 C
Vapor Density (AIR = 1)		Evaporation Rate (Butyl Acetate = 1)	

Solubility in Water
Highly Soluble

Appearance and Odor
Lyphilized, White Crystalline Powder; Oderless

Section IV — Fire and Explosion Hazard Data

Flash Point (Method Used)	Flammable Limits	LEL	UEL
N/A			

Extinguishing Media
Water Spray

Special Fire Fighting Procedures
Wear self-contained breathing appartus and protective clothing to prevent contact wit skin and eyes.

Unusual Fire and Explosion Hazards

010483

Section V — Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	

Incompatibility (*Materials to Avoid*)

Hazardous Decomposition or Byproducts

Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	

Section VI — Health Hazard Data

Route(s) of Entry: Inhalation? yes Skin? yes Ingestion? yes

Health Hazards (*Acute and Chronic*)

May be fatal if inhaled, swallowed, or absorbed through skin.

May cause irritation.

Carcinogenicity: N/A NTP? IARC Monographs? OSHA Regulated?

Signs and Symptoms of Exposure

Medical Conditions Generally Aggravated by Exposure

Emergency and First Aid Procedures

In case of contact, immediately wash with soap and water. In case of contact with e

immediately flush eyes with copious amounts of water for atleased 15 min..

Section VII — Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled

Wear respirator, safty goggles, rubber boots and heavy rubber gloves. Sweep up place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pick up is conplete.

Waste Disposal Method

Routine Laboratory Disposal Method.

Precautions to Be Taken in Handling and Storing

Goggles, protective clothing,gloves,and mask

Other Precautions

Section VIII — Control Measures

Respiratory Protection (*Specify Type*)

mask

Ventilation	Local Exhaust	Special
	Mechanical (*General*)	Other

Protective Gloves	Eye Protection
yes	yes

Other Protective Clothing or Equipment

Work/Hygienic Practices

* U.S.G.P.O.: 1986-491-529/45775

010484

BIOMÉRIEUX

STATEMENT

The product Fibrinosticon, catalogue # 272802, was evaluated for compliance with the European Directives 67/548/EEC (dangerous substances) and 1999/45/CE (dangerous preparations).

The products contains :

- Fibrinosticon Positive Control (ref. 276023),
- Fibrinosticon Negative Control (ref. 276024),

containing hazardous substance(s) at a higher or equal level of the concentration limit(s) as listed in Directive 1999/45/EC or Annex I of Directive 67/548/EEC.

The hazardous substance(s) are listed in the following MSDS.

P. Mouren

Regulatory Affairs

Safety Data Sheet
According to EC Directive 91/155/EEC

Article number: 276024 Supersedes edition: 25/03/2002

Date of release: 30/01/2003 Version: 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name and synonyms	**FIBRINOSTICON NEGATIVE CONTROL**
Identification	This product is to be considered a preparation.
Use	For in-vitro diagnostic use.
Company	bioMérieux bv Boseind 15 5281 RM Boxtel The Netherlands
Telephone number	+31 (0)411 – 654911
Fax number	+31 (0)411 – 654201
Emergency telephone	**+31 (0)411 – 654321**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Substance Class	Sodium azide
Molecule formula	NaN_3
Cas-number	26628-22-8
EG-number	247-852-1
Annex-I number	011-004-00-7

Ingredients	Cas-number	Hazard-symbols	R-phrases	Weight ratio
Sodium azide	26628-22-8	T+, N	R28–32–50/53	≥ 7 % w/w

3. HAZARDS IDENTIFICATION

R28	Very toxic if swallowed.
R32	Contact with acids liberates very toxic gas.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Data Sheet
According to EC Directive 91/155/EEC

BIOMÉRIEUX

Article number: 276024 Supersedes edition: 25/03/2002

Date of release: 30/01/2003 Version: 3

4. FIRST AID MEASURES

Routes of exposure	Inhalation, ingestion, and skin absorption.
Possible symptoms	No typical symptoms and effects are known for this preparation.
Possible effects	Irritation of the eyes, the reparatory tract, and the mucous membranes. The substance can affect the nervous system.
General advice	Obtain medical attention immediately.
Eye contact	Rinse immediately and as long as possible with plenty of water (for at least 10 minutes). Eyelids should be held away from the eyeball to ensure thorough rinsing. Immediately summon eye specialist.
Skin contact	Flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Summon doctor.
Inhalation	Fresh air. If breathing stops: immediately apply mechanical ventilation, if necessary oxygen mask. Immediately summon doctor.
Swallowing	Only when conscious, rinse mouth, give plenty of water to drink induce vomiting, administer activated charcoal (20 - 40 g in 10% slurry). Immediately summon doctor.
Additional information	Absorption through wounds and/or skin defects is possible.

5. FIRE-FIGHTING MEASURES

Special hazards	Emits hazardous combustion gases or vapours possible in the event of fire.
Protective equipment	Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.
Extinguishing agents	Dry sand, metal fire powder.
Non-suitable extinguishing agents	Don't use halons, water, foam.

5. FIRE-FIGHTING MEASURES (continuation)

Hazardous decomposition or combustion products	Practically non-combustible. Danger of dust explosion. Keep workplace dry. Do not allow product to come into contact with water. Development of hazardous combustion gases or vapours possible in the event of fire. The following may develop in event of fire: nitrous gases (NOx).
Other information	Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid generation of dusts. Do not inhale dusts. Avoid contact with skin and eyes.
Environmental precautions	Isolate spill area. Do not allow entering drains or watercourses: risk of explosion.
Methods for cleaning up	Carefully take up dry and subsequently, clean up affected area with copious amounts of water.

7. HANDLING AND STORAGE

Safe handling advice	Avoid inhalation of dusts and contact with skin, eyes and clothing. Wash hands and/or face before taking a break or leaving work.
Measures to prevent fire and explosions	Avoid dust generation.
Requirements for storage	Store tightly closed, dry in a well-ventilated place 15-25 °C.
Other information	Do not eat, drink or smoke in application area. Keep working clothes separately and do not take them home.

Safety Data Sheet
According to EC Directive 91/155/EEC

BIOMÉRIEUX

Article number: 276024 Supersedes edition: 25/03/2002

Date of release: 30/01/2003 Version: 3

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits:

MAC (NL) Sodium azide	**MAC**	0.1 mg/m³ H
	MAC TGG-15 min.	0.3 mg/m³ H

Additional recommendation on technical system design:

Technical measures	Ensure good ventilation and local exhaust ventilation of the working area. If these measures are not sufficient, suitable respiratory protection must be worn.

Personal protection:

Respiratory	Use suitable respiratory protection (filtertype P3).
Eye	Wear suitable eye/face protection.
Hand	Wear suitable gloves.
Skin and body	Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Lyophilized.
Physical state	Solid.
Colour	White to almost white.
Odour	Odourless (sodium azide).
pH	Not determined.
Density	Not determined.
Relative density	Not determined.
Conductivity	Not determined.
Boiling point/boiling range	Not determined.
Melting point/melting range	275 °C (sodium azide).
Flash point	Not applicable.
Flammability	Not applicable.
Explosive properties	Not applicable.

Safety Data Sheet
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BIOMÉRIEUX

Article number: 276024 Supersedes edition: 25/03/2002

Date of release: 30/01/2003 Version: 3

9. PHYSICAL AND CHEMICAL PROPERTIES (continuation)

Oxidising properties	Not determined.
Vapour pressure	Not determined.
Solubility in water	Soluble.
Viscosity	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

10. STABILITY AND REACTIVITY

Remark: information applies to sodium azide!

Conditions to avoid	Strong heating.
Materials to avoid	A risk of explosion and/or of toxic gas formation exists with the following substances: acids, heavy metals, metallic salts, bromine, dimethylsulfate / acid, copper, ichloromethane, carbon disulfide, sulfuric acid, water.
Hazardous decomposition products	In the event of fire: see chapter 5.
Stability	Stable under recommended storage and handling conditions.

11. TOXICOLOGICAL INFORMATION

Remark: information applies to sodium azide!

Acute toxicity:

LD_{50} (oral, rat)	27 mg/kg.
LD_{50} (dermal, rabbit)	20 mg/kg.

Acute toxicity (irritation, sensitisation etc.):

Property that must be anticipated on the basis from the components of the preparation:

After skin contact	Slight irritations. Danger of skin absorption.
After eye contact	Slight irritations.
After inhalation	Severe irritations of: mucous membranes, respiratory tract. Possible damages: pulmonary oedema. Latency time until onset of action.

11. TOXICOLOGICAL INFORMATION (continuation)

After swallowing	Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
Delayed or chronic toxicological effects	No data available.
Other toxicological information:	
Systemic effects	CNS disorders, cardiovascular failure, tachycardia, drop in blood pressure, coughing, dyspnoea, spasms, headache, dizziness, nausea, vomiting, collapse, unconsciousness.
Other information	RTECS No.: VY8050000 (Sodium azide). Further hazardous properties cannot be excluded. The product should be handled with the care usual when dealing with chemicals.

12. ECOLOGICAL INFORMATION

Remark: information applies to sodium azide!

Ecotoxicity	**Fish toxicity**	L.macrochirus LC_{50}: 0.7 mg/l /96 h
	Daphnia toxicity	Daphnia pulex EG_{50}: 4.2 mg/l /96 h
	Algeal toxicity	Gemengde cultuur van groene algen IC_{50}: 272 mg/l
	Bacterial toxicity	Photobacterium phosphoreum EG_{50}: 38.5 mg/l
		Pseudomonas fluorescens EG_5: 2.6 mg/l
Biological effects		Toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment. Forms toxic mixtures in water, dilution measures notwithstanding. Does have a herbicidal effect and nematocidal effect.
Further ecologic data		Do not allow to enter waters, waste water, or soil.

13. DISPOSAL CONSIDERATIONS

Product	Disposal of chemical waste in compliance with corresponding local laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies, which will advice on how to dispose this type of waste.
Contaminated packaging	Disposal in compliance with corresponding local laws and regulations. Handle contaminated packaging in the same way as the product itself.
Other information	If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14. TRANSPORT INFORMATION

Road transport	**ADR/RID**	
	Classification	6.1
	Packing group	III
	UN number	3288
	Name	TOXIC SOLID, INORGANIC, N.O.S. (SODIUM AZIDE MIXTURE)
Transport by air	**IATA**	
	Classification	6.1
	Packing group	III
	UN number	3288
	Name	TOXIC SOLID, INORGANIC, N.O.S. (SODIUM AZIDE MIXTURE)

Safety Data Sheet
According to EC Directive 91/155/EEC

BIOMERIEUX

Article number: 276024 Supersedes edition: 25/03/2002

Date of release: 30/01/2003 Version: 3

15. REGULATORY INFORMATION

Classification	According to Directives 67/548/EEC and 1999/45/EC.	
Hazard symbol(s)	**T+**	**Very toxic**
	N	**Dangerous for the environment**
Risk phrases	**R28**	Very toxic if swallowed.
	R32	Contact with acids liberates very toxic gas.
	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases	**S28**	After contact with skin, wash immediately with plenty of water.
	S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
	S60	This material and its container must be disposed of as hazardous waste.
	S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.

Safety Data Sheet
According to EC Directive 91/155/EEC

BIOMERIEUX

Article number: 276024 Supersedes edition: 25/03/2002

Date of release: 30/01/2003 Version: 3

16. OTHER INFORMATION

This version of the safety data sheet has been totally revised. In particular, the layout has been changed and the information in all chapters has been revised or necessarily further detailed.

This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is correct and complete to our best present knowledge and is given in good faith, but without warranty. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product.

Use	For in-vitro diagnostic use.	
Relevant R phrases (referred to under heading 2 and 3 of this safety data sheet)	**R28**	Very toxic if swallowed.
	R32	Contact with acids liberates very toxic gas.
	R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Date of release	30/01/2003	

010494

BIOMÉRIEUX

facsimile transmittal

To: ELAINE JACINTO	**From: Susan Bertuccelli**
	Date: 11-16-04
	Number of pages including cover sheet: 11
	Phone: 1-800-682-2666 **1-905-947-8118 (Canada)**
Fax No.: 818-503-~~6397~~ 6504	**Fax No.: 1-800-968-9494**

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Confidential**

Notes:

100 Rodolphe Street • Durham, NC 27712 • Tel: 919 620-2000
www.biomerieux-usa.com

DIAGNOSTICA STAGO

MATERIAL SAFETY DATA SHEET (MSDS)

1. Product Identification

Trade Name	:	PROCOLD T1
Manufactured by	:	PROFROID S.A. 178 Rue du Fauge Z.I. des Paluds B.P. 1152 13782 Aubagne Cedex (France) Telephone: 011-33-4-42-18-05-00

2. Information on Product and Its Ingredients:

1-Litre bottle containing a synthetic chemical mixture of the following composition, intended for use as a refrigeration fluid for clinical analyzers of the STA? line:

Inhibited monoethylene glycol	CAS* 107.21.1	(*) Chemical Abstracts Service
Denatured methyl alcohol	CAS 67.56.1	
Denatonium benzoate	CAS 3734.33.6	

3. Hazard Identification

Harmful by inhalation and if swallowed (R20/22)

4. First-Aid Measures

In case of contact with skin: Wash with copious quantities of water and soap. Remove contaminated clothing if necessary. If irritation persists or if skin lesion is observed, consult a physician.
In case of contact with eyes: Wash eyes immediately with copious quantities of water for at least 10 minutes. If irritation persists or if cut is observed, consult a physician (ophthalmologist).
In case of ingestion: Rinse mouth with water and consult a physician.
In case of excessive inhalation: Allow individual to rest in fresh air and consult a physician.

5. Fire Fighting Measures

Fire or explosion hazards: None.

5. Fire-Fighting Measures (continued)

Fire-fighting equipment/method

Recommended	:	carbon dioxide (CO_2) or powder extinguishers
Acceptable	:	foam or halogen extinguishers
Do not use	:	direct water jet

Protective measures while fire-fighting
Avoid inhalation of emitted fumes.

Other recommendations
None

6. Containment of Accidental Spillages

In case of small spillages, rinse with copious quantities of water.
In case of large spillages, call competent authorities for help, wear protective eyeglasses and rubber gloves, wash with copious quantities of water and segregate contaminated clothing.
To protect personnel, avoid excessive contact with skin and eyes.

7. Handling and Storage

Keep product in original bottles tightly capped, or in containers made of glass, away from heat, air, and light as well as avoiding wide temperature ranges. **Do not reuse empty containers**. Open and handle bottles with care. To avoid accidental product sprays into eyes or onto mucous membranes, wear protective eyeglasses and appropriate clothing (e.g., gloves) while handling product.
Do not smoke, drink or eat when near this product.
Do not warm product over a naked flame, or expose its fumes to a flame or to another source of ignition (e.g., electrical equipment).
Do not inhale the warm fumes of the product.
Discard immediately all rags, sponges, filter papers and any other materials used to mop up product.
Always operate in well-ventilated area.

8. Exposure Prevention and Personnel Protection

Wear protective gloves and eye/face shields.

9. Physical and Chemical Properties

Bluish liquid with a characteristic odor; pH7.5; flash point of > 100?C (ASTMD 3278-82).
Specific gravity: 1.022 g/cubic centimeter.
Water solubility: Completely soluble. Solubility in other solvents: soluble in some solvents.
Freezing point: -17 ?C Boiling Point: 98?C

10. Stability and Reactivity

The solution remains stable when stored as recommended.

11. Toxicological Information

Effects of ingestion:	The product has such a bitter taste that any accidental ingestion makes spitting out immediate. The ingested material may cause irritation of the gastro-intestinal mucous membrane.

12. Ecological Information

PROCOLD T1	Studies are in progress.	
Denatonium benzoate	Rainbow trout	LD_{50} = 1,000 mg/litre 96 hours in fresh water
	Shrimps	LD_{50} = 400 mg/litre 96 hours in salt water

13. Disposal Considerations

Collect waste fluids in appropriate containers and forward the latter to authorized dumping facilities for disposal. Respect all applicable local, regional and national regulations for disposal of waste material.

14. Transportation Information

Intact containers can be shipped by land, sea and air without any particular restrictions.

15. Regulatory Information

CEE Labeling	:	XnSymbol - Harmful
Risk Advice	:	R20/22 - Harmful by inhalation or if swallowed
Safety Advice	:	Respect all safety precautions for handling of chemicals

16. Other Pertinent Information

This product is intended for use only as a refrigeration fluid for the STA? analyzers that are manufactured and marketed by DIAGNOSTICA STAGO?.

DIAGNOSTICA STAGO? assumes no responsibility in case of inappropriate use.

This Material Safety Data Sheet (MSDS) is a complement to the product insert but does not replace it.

Other Pertinent Information (continued)

The information contained herein has been compiled from data and information provided by PROFROID S.A., the manufacturer of PROCOLD T1. DIAGNOSTICA STAGO? Neither offers any guarantees nor assumes any liability in connection with the use of this information, or in case of inappropriate handling of this product. Users should strictly respect the instructions of the product insert.

It is the user's responsibility to determine the suitability of this information and to ensure that all appropriate safety precautions are respected.

April, 1999

GEORGE KING BIO-MEDICAL, INC.
11771 West 112th St Overland Park, KS 66210-2782
913.469.5464 1.800.255.5108 Fax: 913.469.0871
www.kingbiomed.com plasma@kingbiomed.com

MSDS Information

These products are plasmas from human donors intended for use as in vitro diagnostic products only. The plasmas are anticoagulated with sodium citrate and tested negative for Hepatitis B surface antigen and HIV antibody. The plasmas should be treated like any patient plasma using universal precautions. This plasma should be handled at the Bio-safety Level 2 as recommended in the Centers for Disease Control / National Institutes of Health manual **Biosafety in Microbiological and Biomedical Laboratories**, 1988. If you have questions or need further information, please feel free to contact us.

Helena Laboratories

1530 LINDBERGH DRIVE
PO BOX 752
BEAUMONT TX 77704 0752
Toll Free 800-231-5663
Local 409 842 3714

FAX (Orders Only) 409 842 9561
FAX (General) 409 842 6241
TWX 910 884 5171
TLX 429861

NINO RODONAIA
MSDS Evaluator

PRODUCT NAME: Helena Ristocetin

PRODUCT CATALOG NUMBER: 5372

The above product contains no hazardous or carcinogenic chemicals in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the product should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

Nino Rodonaia
MSDS Evaluator

REFERENCES

1. Occupational Safety and Health Administration, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List
5. Florida Substance List

Material Safety Data Sheet

1.0 Product and Company Identification

Identification of the preparation: **C1823A Series – No 23 Color**

Use of the preparation: Inkjet printing

Company Identification:
Hewlett-Packard Company
1000 NE Circle Boulevard
Corvallis, Oregon 97330-4239
United States

Emergency telephone number
Hewlett-Packard Health Effects Line:
1-800-457-4209 (USA and Canada)
503-494-7199 (USA direct)
Singapore: +001-800-332-13321

General information telephone number:
208-323-2551 (USA direct)

Local Contact Information

Ireland
Liffey Park Technology Campus
Barnhall Road,
Leixlip, Co. Kildare
Phone: 01 6150000

United Kingdom
Hewlett-Packard, Ltd.
Cain Road, Amen Corner
Bracknell, Berkshire, RG12 1HN
Phone: 1344 36-0000

Hazard Rating	NFPA/HMIS
Health	1
Flammability	1
Instability/Reactivity	0
Special	none

2.0 Composition/Information on Hazardous Ingredients

This ink supply contains an aqueous ink formulation

For cyan ink formulation

Component/Substance	CAS Number	EU Number	% by Weight	EU classification
2-Pyrrolidone	616-45-5	210-843-1	<8	Xi; R36/37/38
Metal nitrate	confidential	confidential	<8	O; Xi; R8-36/37/38
1,5-Pentanediol	111-29-5	203-854-4	<10	not classified
Ethyl alkyldiol	confidential	confidential	<10	not classified
Substituted phthalocyanine salt	confidential	confidential	<3	Xn; N; R22-48/22-51/53
Alkyldiol ethoxylate	confidential	confidential	<3	Xi; R36/38
Water	7732-18-5	231-791-2	> 50	not classified

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For magenta ink formulation

Component/Substance	CAS Number	EU Number	% by Weight	EU classification
2-Pyrrolidone	616-45-5	210-843-1	<8	Xi; R36/37/38
Metal nitrate	confidential	confidential	<8	O; Xi; R8-36/37/38
1,5-Pentanediol	111-29-5	203-854-4	<10	not classified
Ethyl alkyldiol	confidential	confidential	<10	not classified
Azonaphthalenesulfonate salt	confidential	confidential	<3	Xi; R41-43-52/53
Alkyldiol ethoxylate	confidential	confidential	<3	Xi; R36/38
Water	7732-18-5	231-791-2	> 50	not classified

For yellow ink formulation

Component/Substance	CAS Number	EU Number	% by Weight	EU classification
Ethyl alkyldiol	confidential	confidential	<10	not classified
Metal nitrate	confidential	confidential	<10	O; Xi; R8-36/37/38
2-Pyrrolidone	616-45-5	210-843-1	<6	Xi; R36/37/38
Diethylene glycol	111-46-6	203-872-2	<6	Xn; R22
Arylazopyrazolesulfonate salt	confidential	confidential	<5	T; R25- 48/22-52/53
Alkyldiol ethoxylate #1	confidential	confidential	<4	Xi; R38-41
Alkyldiol ethoxylate #2	confidential	confidential	<3	Xi; R36/38
Water	7732-18-5	231-791-2	> 50	not classified

3.0 Hazard Identification

The cyan ink is classified for environmental effects according to EU Directive 1999/45/EC with R52-53. The magenta and yellow inks are not classified according to EU Directive 1999/45/EC

3.1 Routes of Exposure

Potential routes of overexposure to this product are skin and eye contact.

Inhalation of vapor and ingestion are not expected to be significant routes of exposure for this product under normal use conditions.

Complete toxicity data are not available for this specific formulation.

3.2 Acute Health Hazards

Any potential hazards are presumed to be due to exposure to the components.

2-Pyrrolidone: Contact with eyes and skin may result in irritation. Inhalation may result in respiratory irritation. Ingestion may result in nausea, vomiting, and diarrhea.
Metal nitrate: Contact with eyes and skin may cause irritation. Inhalation may cause respiratory irritation. Note: Nitrates and their derivatives can cause methemoglobinemia and result in respiratory depression. Primary indictors of prolonged exposure include shortness of breath, headaches, dizziness and cyanosis (bluish skin and lips).
1,5-Pentanediol: Contact with eyes and skin may cause irritation. Harmful if swallowed.
Ethyl alkyldiol: Contact with eyes and skin may cause mild irritation.
Alkyldiol ethoxylate: Contact with skin or eyes may cause irritation.

Cyan Ink

Substituted phthalocyanine salt: Harmful if swallowed.

Magenta Ink

Azonaphthalenesulfonate: Contact with eyes may cause serious damage. Contact with skin may cause an allergic reaction.

Yellow Ink

Diethylene glycol: Harmful if swallowed. May cause kidney and liver damage. May depress the central nervous system.
Arylazopyrazolesulfonate salt: Toxic if swallowed.
Alkyldiol ethoxylate #1: Contact with eyes may result in severe irritation and corneal injury. Contact with skin may result in severe irritation. Ingestion may cause irritation of mouth and throat, nausea, vomiting and diarrhea.
Alkyldiol ethoxylate #2: Contact with eyes and skin may result in severe irritation. Ingestion may cause irritation of mouth and throat, nausea, vomiting, and diarrhea

3.3 Chronic Health Hazards

Cyan ink
Substituted phthalocyanine salt: Prolonged ingestion exposure may cause serious damage to health.

Yellow ink
Arylazopyrazolesulfonate: Prolonged ingestion exposure may cause serious damage to health

3.4 Carcinogenicity None of the components present in this formulation at concentrations equal to or greater than 0.1% are listed by EU, MAK, IARC, NTP or OSHA.

4.0 First Aid Measures

Emergency telephone number	1-800-457-4209 (USA and Canada)
Hewlett-Packard Health Effects Line:	503-494-7199 (USA direct) Singapore: +001-800-332-13321
Inhalation:	Remove to fresh air. If symptoms persist, consult a physician.
Ingestion:	If stomach upset persists, consult a physician.
Skin:	Wash affected areas thoroughly with soap and water. If irritation persists, consult a physician.
Eyes:	Do not rub eyes. Immediately flush with large amounts of clean, lukewarm water (low pressure) for at least 15 minutes or until particles are removed. If irritation persists, consult a physician.

5.0 Fire Fighting Measures

Extinguishing media:	Water, dry chemical, carbon dioxide, foam
Unsuitable Extinguishing Media:	None known
Special Firefighting Procedures:	None known
Unusual fire and explosion hazards:	No special hazards known
Auto-ignition temperature:	Not determined
Flashpoint (method):	> 200° F, > 93.3° C (US EPA Method 1020)
Hazardous Combustion Products	Refer to section 10.

6.0 Accidental release measures

Spill or Leak Procedures:	Standard eye and skin protection is recommended.
Environmental precautions:	Do not discharge into drains (See also Section 13, Disposal considerations)

7.0 Handling and Storage

Storage Temperature:	59° F to 95° F; 15° C to 35° C

Handling and Storage precautions:	Keep out of the reach of children Keep away from extreme heat or cold.
Shelf Life:	1 year
Special Sensitivity:	None

8.0 Exposure control/ personal protection

8.1 Exposure Limit Values	Yellow Ink Diethylene glycol: Germany (TRGS 900) = 10 ppm; Austria, Sweden, Switzerland, TWA=10ppm; Ireland, UK TWA=23ppm; Denmark TWA=2.5ppm
8.2 Exposure Controls	Standard eye and skin protection for laboratory chemical safety recommended. Use in well ventilated area.

9.0 Physical and chemical properties

pH:	Cyan (Blue): 7.8 – 8.6 Magenta (Red): 6.0 – 7.4 Yellow: 6.0 – 6.6
Boiling point:	Not Determined
Flash point:	> 200° F, > 93.3° C
Flammability:	US NFPA/HMIS Flammability rating = 1
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable
Vapor Pressure:	Not applicable
Relative density:	Specific Gravity 1.0 to 1.2
Solubility:	Soluble in water
Partition coefficient:	Not determined
Viscosity:	Not determined
Vapor density:	>1 (air = 1.0)
Evaporation rate:	Not applicable
Other:	Not applicable

10.0 Stability and reactivity

Stability:	Stable under normal storage conditions
Incompatibilities:	Strong oxidizers
Thermal decomposition products:	Oxides of carbon/nitrogen/sulfur, water
Hazardous polymerization:	None

11.0 Toxicological information

Refer to Section 3 for potential heath effects and Section 4 for first aid measures

Magenta Ink

Eye irritation: Mild irritant in rabbit (OECD 405). Not classified as an eye irritant according to EU Directives 67/548/EEC and 1999/45/EC.
Skin sensitization: Non-sensitizer in guinea pig (OECD 406). Not classified as a skin sensitizer according to EU Directives 67/548/EEC and 1999/45/EC.

Yellow Ink

Acute oral toxicity: LD50 > 2500 mg/kg in rat (OECD 423). Not classified for acute oral toxicity according to EU Directives 67/548/EEC and 1999/45/EC.

12.0 Ecological information

Magenta Ink

96 Hour LC50 Static Acute Toxicity	LC50 < 400mg/L Survival (100mg/L) = 23% Survival (10mg/L) = 100%	Fathead minnow Trout

Cyan Ink

Static Acute Toxicity	Survival (100mg/L) = 100% Survival (10mg/L) = 100%	Trout

Yellow Ink

96 Hour LC50 Static Acute Toxicity	LC50 < 400mg/L Survival (100mg/L) = 20% Survival (10mg/L) = 100%	Fathead minnow Trout

13.0 Disposal considerations

Dispose in accordance with all applicable US Federal, state, local, and country laws.

14.0 Transportation information

Not a regulated article under United States DOT, IATA, ADR, or RID.

UN Number:	Not applicable
Class:	Not applicable
Proper Shipping Name:	Not applicable
Packing Group:	Not applicable
Marine Pollutant:	Not listed
Special Precautions:	None noted

Material Safety Data Sheet

15.0 Regulatory information

US EPA TSCA Inventory:	All ingredients are listed or exempt
US EPA TSCA 12(b):	Does not contain listed chemicals.
EU Notification:	All ingredients are listed on EINECS and/or ELINCS or exempt.
EU Hazard Label (1999/45/EC):	May require a label according to EU directive 1999/45/EC.

16.0 Other information

Date Prepared:	July 12, 2002
HP-DMS Document Control Number:	09000de780229e0f-eng
Revision Information:	This document replaces all prior versions of the MSDS
EU Risk (R) Phrase definitions:	R8: Contact with combustible material may cause fire R22: Harmful if swallowed R25: Toxic if swallowed R38: Irritating to skin R41: Possible risks of irreversible effects R43: May cause sensitization by skin contact R36/38: Irritating to eyes and skin R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment R36/37/38: Irritating to eyes, respiratory system and skin.
Other Information	This MSDS was prepared in compliance with EU Directive 91/155/EEC as amended by 2001/58/EC and USA OSHA Hazard Communications regulations (29CFR1910:1200).

DISCLAIMER: This Material Safety Data Sheet (MSDS) is provided without charge to customers of Hewlett-Packard. Data is the most current known to Hewlett-Packard at the time of preparation of this MSDS and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application.

Material Safety Data Sheet

1.0 Product and Company Identification

Identification of the preparation: **51645 Series – No 45 Black**

Use of the preparation: Inkjet printing

Company Identification:
Hewlett-Packard Company
1000 NE Circle Boulevard
Corvallis, Oregon 97330-4239
United States

Emergency telephone number: 1-800-457-4209 (USA and Canada)
Hewlett-Packard Health Effects Line: 503-494-7199 (USA direct)
Singapore: +001-800-332-13321

General information telephone number: 208-323-2551 (USA direct)

Local Contact Information

Ireland
Liffey Park Technology Campus
Barnhall Road,
Leixlip, Co. Kildare
Phone: 01 6150000

United Kingdom
Hewlett-Packard, Ltd.
Cain Road, Amen Corner
Bracknell, Berkshire, RG12 1HN
Phone: 1344 36-0000

Hazard Rating	NFPA/HMIS
Health	1
Flammability	2
Instability/Reactivity	0
Special	none

2.0 Composition/Information on Hazardous Ingredients

This ink supply contains an aqueous ink formulation

Component/Substance	CAS Number	EU Number	% by Weight	EU classification
2-Pyrrolidone	616-45-5	210-843-1	<10	Xi; R36/37/38
Isopropyl alcohol	67-63-0	200-661-7	<5	F; Xi; R11-36-67
Carbon black	1333-86-4	215-609-9	<5	not classified
Water	7732-18-5	231-791-2	> 50	not classified

3.0 Hazard Identification

The black ink is not classified according to EU Directive 1999/45/EC

3.1 Routes of Exposure

Potential routes of overexposure to this product are skin and eye contact.

Inhalation of vapor and ingestion are not expected to be significant routes of exposure for this product under normal use conditions.

Complete toxicity data are not available for this specific formulation.

3.2 Acute Health Hazards

Any potential hazards are presumed to be due to exposure to the components.

2-Pyrrolidone: Contact with eyes and skin may result in irritation Inhalation may result in respiratory irritation. May cause nausea, vomiting, and diarrhea.

Isopropyl alcohol: Contact with skin may result in irritation. Inhalation may cause drowsiness or dizziness.

Carbon Black: Chronic inhalation studies performed with fine dust particles resulted in lung tumors in animals. The IARC classification (see sec 3.4) was based upon these results. IARC also concluded "there is inadequate evidence in humans for the carcinogenicity of carbon black." Inhalation of fine dust particles is not expected to occur during normal conditions of use of this ink.

3.3 Chronic Health Hazards

None noted

3.4 Carcinogenicity

Carbon black has been classified by the International Agency for Research on Cancer (IARC) as Group 2B (possibly human carcinogen). None of the other ingredients have been classified as carcinogens according to EU, IARC, MAK, NTP or OSHA.

4.0 First Aid Measures

Emergency telephone number 1-800-457-4209 (USA and Canada)
Hewlett-Packard Health Effects Line: 503-494-7199 (USA direct)
Singapore: +001-800-332-13321

Inhalation: Remove to fresh air. If symptoms persist, consult a physician.

Ingestion: If stomach upset persists, consult a physician.

Skin: Wash affected areas thoroughly with soap and water. If irritation persists, consult a physician.

Eyes: Do not rub eyes. Immediately flush with large amounts of clean, lukewarm water (low pressure) for at least 15 minutes or until particles are removed. If irritation persists, consult a physician.

5.0 Fire Fighting Measures

Extinguishing media:	Water, dry chemical, carbon dioxide, foam
Unsuitable Extinguishing Media:	None known
Special Firefighting Procedures:	None known
Unusual fire and explosion hazards:	No special hazards known
Auto-ignition temperature:	Not determined
Flashpoint (method):	Approximately 129° F - 135°F, No ignition, sustained combustion or flashing in the Sustained Combustibility Test (method in US 49CFR173, Appendix H)
Hazardous Combustion Products	Refer to section 10.

6.0 Accidental release measures

Spill or Leak Procedures:	Standard eye and skin protection recommended.
Environmental precautions:	Do not discharge into drains (See also Section 13, Disposal considerations)

7.0 Handling and Storage

Storage Temperature:	59°F to 95°F; 15°C to 35°C
Handling and Storage precautions:	Keep out of the reach of children Keep away from extreme heat and cold.
Shelf Life:	1 year
Special Sensitivity:	None

8.0 Exposure control/ personal protection

8.1 Exposure Limit Values	Isopropyl alcohol: OSHA, ACGIH, Canada, Austria, Belgium, France, Ireland, Italy, Spain, UK TWA=400ppm; Denmark, Germany, Switzerland TWA=200ppm; Netherlands TWA=250ppm; Sweden TWA=150ppm; Norway TWA=100ppm Carbon black: OSHA, ACGIH, Canada, Denmark, Finland, France, Ireland, Italy, Netherlands, Norway, UK TWA = 3.5mg/m^3; Sweden NGV=3 mg/m^3; Belgium TWA=3.6mg/m^3; Germany TWA=6mg/m^3

8.2 Exposure Controls Standard eye and skin protection for laboratory chemical safety recommended. Use in well ventilated area.

9.0 Physical and chemical properties

pH:	7.8 – 8.4
Boiling point:	Not Determined
Flash point:	Approximately 129° F - 135°F; 54°C – 57°C
Flammability:	US NFPA/HMIS Flammability rating = 2
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable
Vapor Pressure:	Not applicable
Relative density:	Specific Gravity 1.0 to 1.2
Solubility:	Soluble in water
Partition coefficient:	Not determined
Viscosity:	Not determined
Vapor density:	>1 (air = 1.0)
Evaporation rate:	Not applicable
Other:	Not applicable

10.0 Stability and reactivity

Stability:	Stable under normal storage conditions
Incompatibilities:	Strong oxidizers
Thermal decomposition products:	Oxides of carbon/nitrogen/sulfur, water
Hazardous polymerization:	None

11.0 Toxicological information

Refer to Section 3 for potential heath effects and Section 4 for first aid measures
Ink formulation has not been tested.

12.0 Ecological information

96 Hour LC50	LC50 >750mg/L	Fathead minnow

13.0 Disposal considerations

Dispose in accordance with all applicable US Federal, state, local, and country laws.

Material Safety Data Sheet

14.0 Transportation information

Not a regulated article under United States DOT, IATA, ADR, or RID.

UN Number:	Not applicable
Class:	Not applicable
Proper Shipping Name:	Not applicable
Packing Group:	Not applicable
Marine Pollutant:	Not listed
Special Precautions:	None noted

15.0 Regulatory information

US EPA TSCA Inventory:	All ingredients are listed or exempt.
US EPA TSCA 12(b):	Does not contain listed chemicals.
EU Notification:	All ingredients are listed on EINECS and/or ELINCS or exempt.
EU Hazard Label (1999/45/EC):	This product does not require a label according to EU Directive 1999/45/EC.

16.0 Other information

Date Prepared:	June 29, 2002
HP-DMS Document Control Number:	09000de7802284fb-eng
Revision Information:	This document replaces all prior versions of the MSDS
EU Risk (R) Phrase definitions:	R11: Highly flammable R36: Irritating to eyes R67: Vapors may cause drowsiness and dizziness R36/37/38: Irritating to eyes, respiratory system and skin.
Other Information	This MSDS was prepared in compliance with EU Directive 91/155/EEC as amended by 2001/58/EC and USA OSHA Hazard Communications regulations (29CFR1910:1200).

DISCLAIMER: This Material Safety Data Sheet (MSDS) is provided without charge to customers of Hewlett-Packard. Data is the most current known to Hewlett-Packard at the time of preparation of this MSDS and is believed to be accurate. It should not be construed as guaranteeing specific properties of the products as described or suitability for a particular application.

SOLUTIONS DEPARTMENT
MSDS for HYDROCHLORIC ACID, 0.1N

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I - General Information SDHYDA01 ND06-02-05

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: HYDROCHLORIC ACID, 0.1N

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
HYDROCHLORIC ACID	0.83	7647-01-0	SPECTRUM	H1035
DI-WATER	99.17	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	1	3	1	0

SPECIAL HAZARD RATING: HARMFUL BY INHALATION, SKIN CONTACT

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
3 1	Health Hazard 3 Fire Hazard 0 Reactivity 1	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Hydrochloric acid**	Catalog Number(s).	H1307, H1035, H1037, H1038, H1039
		CAS#	Mixture.
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	MW4025000
		TSCA	TSCA 8(b) inventory: Hydrochloric acid
Commercial Name(s)	Not available.	CI#	Not applicable.
Synonym	Hydrochloric Acid; Muriatic Acid		
Chemical Name	Not applicable.		
Chemical Family	Inorganic acid. (Acid.)		
Chemical Formula	Not applicable.		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Hydrogen chloride 2) Water	7647-01-0 7732-18-5		5	5	20-38 62-80

Toxicological Data on Ingredients **Hydrogen chloride**:
GAS (LC50): Acute: 4701 ppm 0.5 hours [Rat].

Section 3. Hazards Identification

Potential Acute Health Effects Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, . Slightly hazardous in case of inhalation (lung sensitizer). Non-corrosive for lungs. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Continued on Next Page

Potential Chronic Health Effects	Slightly hazardous in case of skin contact (sensitizer). **CARCINOGENIC EFFECTS**: Classified 3 (Not classifiable for human.) by IARC [Hydrochloric acid]. **MUTAGENIC EFFECTS**: Not available. **TERATOGENIC EFFECTS**: Not available. **DEVELOPMENTAL TOXICITY**: Not available. The substance may be toxic to kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, Circulatory System, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	of metals
Explosion Hazards in Presence of Various Substances	Non-explosive in presence of open flames and sparks, of shocks.
Fire Fighting Media and Instructions	Not applicable.

Continued on Next Page

Special Remarks on Fire Hazards	Non combustible. Calcium carbide reacts with hydrogen chloride gas with incandescence. Uranium phosphide reacts with hydrochloric acid to release spontaneously flammable phosphine. Rubidium acetylene carbides burns with slightly warm hydrochloric acid. Lithium silicide in contact with hydrogen chloride becomes incandescent. When dilute hydrochloric acid is used, gas spontaneously flammable in air is evolved. Magnesium boride treated with concentrated hydrochloric acid produces spontaneously flammble gas. Cesium acetylene carbide burns hydrogen chloride gas. Cesium carbide ignites in contact with hydrochloric acid unless acid is dilute. Reacts with most metals to produce flammable Hydrodgen gas.
Special Remarks on Explosion Hazards	Hydrogen chloride in contact with the following can cause an explosion, ignition on contact, or other violent/vigorous reaction: Acetic anhydride AgClO + CCl4 Alcohols + hydrogen cyanide, Aluminum Aluminum-titanium alloys (with HCl vapor), 2-Amino ethanol, Ammonium hydroxide, Calcium carbide Ca3P2 Chlorine + dinitroanilines (evolves gas), Chlorosulfonic acid Cesium carbide Cesium acetylene carbide, 1,1-Difluoroethylene Ethylene diamine Ethylene imine, Fluorine, HClO4 Hexalithium disilicide H2SO4 Metal acetylides or carbides, Magnesium boride, Mercuric sulfate, Oleum, Potassium permanganate, beta-Propiolactone Propylene oxide Rubidium carbide, Rubidium, acetylene carbide Sodium (with aqueous HCl), Sodium hydroxide Sodium tetraselenium, Sulfonic acid, Tetraselenium tetranitride, U3P4 , Vinyl acetate. Silver perchlorate with carbon tetrachloride in the presence of hydrochloric acid produces trichloromethyl perchlorate which detonates at 40 deg. C.

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: **Neutralize the residue with a dilute solution of sodium carbonate.**
Large Spill	Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of sodium carbonate.** Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep locked up.. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, organic materials, metals, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or coated fiberboard drum using a strong polyethylene inner package.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	CEIL: 5 (ppm) from OSHA (PEL) [United States] CEIL: 7 (mg/m^3) from OSHA (PEL) [United States] CEIL: 5 from NIOSH CEIL: 7 (mg/m^3) from NIOSH TWA: 1 STEL: 5 (ppm) [United Kingdom (UK)] TWA: 2 STEL: 8 (mg/m^3) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits.

Continued on Next Page

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	**Odor**	Pungent. Irritating (Strong.)
Molecular Weight	Not applicable.	**Taste**	Not available.
pH (1% soln/water)	Acidic.	**Color**	Colorless to light yellow.

Boiling Point	108.58 C @ 760 mm Hg (for 20.22% HCl in water) 83 C @ 760 mm Hg (for 31% HCl in water) 50.5 C (for 37% HCl in water)
Melting Point	-62.25°C (-80°F) (20.69% HCl in water) -46.2 C (31.24% HCl in water) -25.4 C (39.17% HCl in water)
Critical Temperature	Not available.
Specific Gravity	1.1- 1.19 (Water = 1) 1.10 (20%and 22% HCl solutions) 1.12 (24% HCl solution) 1.15 (29.57% HCl solution) 1.16 (32% HCl solution) 1.19 (37% and 38%HCl solutions)
Vapor Pressure	16 kPa (@ 20°C) average
Vapor Density	1.267 (Air = 1)
Volatility	Not available.
Odor Threshold	0.25 to 10 ppm
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, diethyl ether.
Solubility	Soluble in cold water, hot water, diethyl ether.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials, water
Incompatibility with various substances	Highly reactive with metals. Reactive with oxidizing agents, organic materials, alkalis, water.
Corrosivity	Extremely corrosive in presence of aluminum, of copper, of stainless steel(304), of stainless steel(316). Non-corrosive in presence of glass.
Special Remarks on Reactivity	Reacts with water especially when water is added to the product. Absorption of gaseous hydrogen chloride on mercuric sulfate becomes violent @ 125 deg. C. Sodium reacts very violently with gaseous hydrogen chloride. Calcium phosphide and hydrochloric acid undergo very energetic reaction. It reacts with oxidizers releasing chlorine gas. Incompatible with, alkali metals, carbides, borides, metal oxides, vinyl acetate, acetylides, sulphides, phosphides, cyanides, carbonates. Reacts with most metals to produce flammable Hydrogen gas. Reacts violently (moderate reaction with heat of evolution) with water especially when water is added to the product. Isolate hydrogen chloride from heat, direct, alkalies (reacts vigorously), organic materials, and oxidizers (especially nitric acid and chlorates), amines, metals, copper and alloys (e.g. brass), hydroxides, zinc (galvanized materials), lithium silicide (incandescence), sulfuric acid(increase in temperature and pressure) Hydrogen chloride gas is emitted when this product is in contact with sulfuric acid. Adsorption of Hydrochloric Acid onto silicon dioxide results in exothmeric reaction. Hydrogen chloride causes aldehydes and epoxides to violently polymerize. Hydrogen chloride or Hydrochloric Acid in contact with the folloiwng can cause explosion or ignition on contact or

Continued on Next Page

other violent/vigorous reaction: Acetic anhydride, Alcohols + hydrogen cyanide, Aluminum, Aluminum phosphide, Aluminum-titanium alloys (with HCl vapor), 2-Amino ethanol, Ammonium, Ammonium hydroxide, 1,4-Benzoquinone diimine, Calcium acetylide (incandescence upon warming), Calcium carbide, Calcium phosphide, Carbon tetrachloride + silver perchlorate (produce trichlormethyl perchlorate), Cesium acetylene carbide, Cesium carbide, Cesium telluroacylates, Chlorine + dinitroanilines (evolves gas), Chloroacetaldehyde oxime, Chlorosulfonic acid, Cyanogen chloride (when catalyzed by HCl), 1,1-Difluoroethylene, Dinitroanilines, Ethylene, Ethylene diamine, Ethyl 2-formylpropionate oxime (when generated by using HCl as a catalyst), Ethylene imine, Fluorine, HClO4, Hexalithium disilicide, Hydrogen peroxide, Metal acetylides, carbides, Magnesium boride, Methyl vinyl ether, Mercuric sulfate, Nitric acid + glycerol, Oleum, Perchloric acid, Potassium, Potassium permanganate, beta-Propiolactone, Propylene oxide, Rubidium acetylide, Rubidium carbide, Rubidium acetylene carbide, Silicon dioxide, Silver chlorite, Sodium (with aqueous HCl), Sodium 2-allyloxy-6-nitrophenylpyruvate oxime, Sodium hydroxide, Sodium tetraselenium, Sulfonic acid, Sulfuric acid, Tetraselenium tetranitride, 2,4,6-Tri(2-acetylhydrazino)-1,3,5-trinitrobenzene, Uranium phosphide, Vinyl acetate.
Hydrogen chloride gas can react with formaldehyde to form bis(chloromethyl)ether, a human carcinogen.
Most metals, as well as certain coatings, plastics, and rubbers, are attacked by hydrogen chloride.
Addition of hydrochloric acid to the following results in an exothermic reaction: Cesium cyanotridecahydrodecarborate(2-), Potassium ferricyanide, Vinylidene fluoride.
Addition of hydrochloric acid to potassium ferrocyanide or ammonium hexacyanoferrate(II) results in an endothermic reaction.
Hydrochloric acid in the presence of alcohol and glycols results in dehydration reactions.

Special Remarks on Corrosivity

Highly corrosive. Incompatible with copper and copper alloys. It attacks nearly all metals (mercury, gold, platinium, tantalum, silver, and certain alloys are exceptions).
It is one of the most corrosive of the nonoxidizing acids in contact with copper alloys.
No corrosivity data on zinc, steel.
Severe Corrosive effect on brass and bronze

Polymerization

Will not occur.

Section 11. Toxicological Information

Routes of Entry

Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Toxicity to Animals

Acute oral toxicity (LD50): 900 mg/kg [Rabbit].
Acute toxicity of the vapor (LC50): 1108 ppm, 1 hours [Mouse].
Acute toxicity of the vapor (LC50): 3124 ppm, 1 hours [Rat].

Chronic Effects on Humans

CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrochloric acid].
May cause damage to the following organs: kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, Circulatory System, teeth.

Other Toxic Effects on Humans

Very hazardous in case of skin contact (corrosive, irritant, permeator), of ingestion, .
Hazardous in case of eye contact (corrosive), of inhalation (lung corrosive).

Special Remarks on Toxicity to Animals

Lowest Published Lethal Doses (LDL/LCL)
LDL [Man] -Route: Oral; 2857 ug/kg
LCL [Human] - Route: Inhalation; Dose: 1300 ppm/30M
LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

Special Remarks on Chronic Effects on Humans

May cause adverse reproductive effects (fetoxicity).
May affect genetic material.

Special Remarks on other Toxic Effects on Humans

Acute Potential Health Effects:
Skin: Corrosive. Causes severe skin irritation and burns.
Eyes: Corrosive. Causes severe eye irritation/conjuntivitis, burns, corneal necrosis.
Inhalation: May be fatal if inhaled. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Inhalation of hydrochloric acid fumes produces nose, throat, and larryngeal burning, and irritation, pain and inflammation, coughing, sneezing, choking sensation, hoarseness, laryngeal spasms, upper respiratory tract edema, chest pains, as well has headache, and palpitations. Inhalation of high concentrations can result in corrosive burns, necrosis of bronchial epithelium, constriction of the larynx and bronchi, nasospetal perforation, glottal closure, dyspnea, bronchitis. Chemical pneumonitis and pulmonary edema can also occur, particularly if exposure is prolonged. May affect the liver.
Ingestion: May be fatal if swallowed. Causes irritation and burning, ulceration, or perforation of the gastrointestinal tract and resultant peritonitis, gastric hemorrhage and infection. Can also cause nausea, vomitting (with "coffee ground" emesis), diarrhea, thirst, difficulty swallowing, salivation, chills, fever, uneasiness, shock, strictures and stenosis (esophogeal, gastric, pyloric). May affect behavior (excitement), the cardiovascular system (weak rapid pulse, tachycardia), respiration (shallow respiration), and urinary system (kidneys- renal failure, nephritis).
Acute exposure via inhalation or ingestion can also cause erosion of tooth enamel.
Chronic Potential Health Effects:

Continued on Next Page

Prolonged or repeated inhalation and/or ingestion may affect liver, bleeding of nose and gums, nasal and oral mucosal ulceration, conjunctivitis, respiratory tract (changes in pulmonary function, chronic bronchitis, overt respiratory tract abnormalities), teeth (yellowing of teethand erosion of tooth enamel), kidneys, and behavior (muscle contraction or spasticity).
Prolonged or repeated skin contact may cause dermatitis.
Prolonged or repeated eye contact with vapor/mist can cause conjunctivitis

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are less toxic than the product itself.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	Class 8: Corrosive material
Identification	: Hydrochloric acid, solution UNNA: 1789 PG: II
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations

Connecticut hazardous material survey.: Hydrochloric acid
Illinois toxic substances disclosure to employee act: Hydrochloric acid
Illinois chemical safety act: Hydrochloric acid
New York release reporting list: Hydrochloric acid
Rhode Island RTK hazardous substances: Hydrochloric acid
Pennsylvania RTK: Hydrochloric acid
Minnesota: Hydrochloric acid
Massachusetts RTK: Hydrochloric acid
Massachusetts spill list: Hydrochloric acid
New Jersey: Hydrochloric acid
New Jersey spill list: Hydrochloric acid
Louisiana RTK reporting list: Hydrochloric acid
Louisiana spill reporting: Hydrochloric acid
California Director's List of Hazardous Substances: Hydrochloric acid
TSCA 8(b) inventory: Hydrochloric acid
TSCA 4(a) proposed test rules: Hydrochloric acid
SARA 302/304/311/312 extremely hazardous substances: Hydrochloric acid
SARA 313 toxic chemical notification and release reporting: Hydrochloric acid
CERCLA: Hazardous substances.: Hydrochloric acid: 5000 lbs. (2268 kg)

Continued on Next Page

California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications	**WHMIS (Canada)** CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.
	DSCL (EEC) R34- Causes burns. R37- Irritating to respiratory system. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	0
Reactivity	1
Personal Protection	

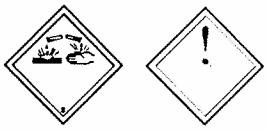
National Fire Protection Association (U.S.A.)

Health — Flammability — Reactivity — Specific hazard

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)



ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Full suit.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Face shield.

Continued on Next Page

Section 16. Other Information

MSDS Code	**H3290**
References	-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Guide de la loi et du règlement sur le transport des marchandises dangeureuses au canada. Centre de conformité internatinal Ltée. 1986.
Other Special Considerations	Not available.

Validated by Sonia Owen on 8/6/2004.	**Verified by Sonia Owen.** **Printed 8/25/2004.**

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

SOLUTIONS DEPARTMENT
MSDS for ISOPROPYL ALCOHOL, 70%

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I - General Information

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: ISOPROPYL ALCOHOL, 70%; 2-PROPANOL 70%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
2-PROPANOL	70.0	67-63-0	FISHER SCIENTIFIC	A426-4
DI-WATER	30.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	1	1	0	3

SPECIAL HAZARD RATING: AVOID INHALING VAPORS

5 - Section IV - Storage and Stability

STORAGE: FLAMMABLE

STABILITY: 3 YEARS

Bristol-Myers Squibb Company

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

BRISTOL-MYERS PRODUCTS
A DIVISION OF BRISTOL-MYERS SQUIBB COMPANY

1350 LIBERTY AVENUE
HILLSIDE, NJ 07207-6050
1-800-468-7746

February, 18, 2003

Product Identification KeriR Advanced Moisture Therapy
KeriR Sensitive Skin Moisture Therapy

Chemical Name: Special Ingredients - Glycerol, Tocopheryl Acetate (Vitamin E Acetate), Aloe Barbadensis Gel (Veragel 1:1)
Synonym: Advanced Moisture Therapy: Fast Absorbing Lotion - Softly Scented, Fast Absorbing - Dry Skin (Reference number 5099-16); Sensitive Skin Moisture Therapy: Fast Absorbing Lotion - Fragrance Free (Sensitive Skin), Fast Absorbing

Lotion - Sensitive Skin (Reference number 5099-17)
How Supplied: Plastic (high density polyethylene) bottles.
Product Use: Skin lubricant and moisturizer.
Chemical Family: Not applicable
CAS #: Numerous CAS numbers - see Section 2 below.

EMERGENCY CONTACTS
Health: 1-800-468-7746 (Monday through Friday, daytime). At other times contact CHEMTREC or the local poison control center.

Transportation: CHEMTREC 1-800-424-9300. For all international transportation emergencies call CHEMTREC at 703-527-3887, collect call accepted.

EMERGENCY OVERVIEW: Smooth, white, thick liquid. The constituents of KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy are all "generally recognized as safe" under the conditions of the product's intended use, as determined by qualified scientific experts. This product is for external use only.

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2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	OSHA HAZARDOUS Y/N)	CONCENTRATION (WEIGHT %)	CAS#	EXPOSURE GUIDELINE
tocopheryl acetate	Y	0.2	7695-91-2	None.
water, USP	N	>1	7732-18-5	None.
white petrolatum,USP	N	>1	8009-03-85	5 mg/m3 1,2, 10 mg/m3 TLV- STEL1. (as mist).

glycerol	Y	>1	56-81-5	10 mg/m3 1 5mg/m3 respirable 2 15mg/m3 total 2 (as mist).
hexadecanol (cetyl alcohol)	Y	>1	36653-82-4	None.
stearic acid	Y	>1	57-11-4	None.
hydrogenated polyisobutene	N	>1	68937-10-0	None.
aloe barbadensis gel	N	0.1	NA	None.

Present at <1% for fragrance, color, stability, or pH adjustment: Carbomer, methylparaben, disodium EDTA, magnesium aluminum silcate, sodium hydroxide, dimethicone, PEG-5 Soya Sterol, cyclopentasiloxane, dimethicone copolyol, Arlacel 165, propylparaben, phenoxyethanol, diazolidinyl urea, fragrance*.

*Present in KeriR Advanced Moisture Therapy but not KeriR Sensitive Skin Moisture Therapy.

1 ACGIH TLV TWA=American Conference of Governmental Industrial Hygienists Threshold Limit Value Time- Weighted Average for an 8-hour workday, 40-hour work week. TLV-STEL=ACGIH Threshold Limit Value-Short Term Exposure Limit.

2 OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit for an 8-hour workday, 40-hour work week.

3. HEALTH HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE

Routes of Entry:

1. Inhalation: Exposure to this material by inhalation is not expected to occur (lotion). The extent of systematic absorption of the material, if inhalation were to occur, is not known.

2. Skin contact: During manufacture, unwanted exposure may occur if gloves and protective clothing are not worn.

3. Ingestion: Ingestion of large quantities of this material in a use or occupational setting would not be expected to occur. Ingestion of trace amounts of the material might occur if material contacts hands and hands are not washed prior to eating, drinking, or smoking. The extent of systemic absorption of the material after ingestion is not known.

Acute:

1. Ingestion: Inadvertent ingestion of trace amounts of this material would not be expected to result in symptoms.

2. Inhalation: Inhalation of small doses of aerosolized material would not be expected to result in symptoms.

3. Skin Contact
a. Toxic: Dermal toxicity testing has not been done on this product.
b. Irritation: Toxicology testing indicates that KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy are not irritating to the skin.
c. Sensitization : Toxicology testing indicates that these materials do not act as sensitizers (allergens).

4. Eye Contact: The constituents, sodium hydroxide, tocopheryl acetate, cyclopentasiloxane, dimethicone copolyol, propylparaben, phenoxyethanol, and fragrance can cause burning and irritation of the eyes during manufacture. Signs associated with eye irritation may include redness, tearing, swelling, and pain.

Chronic: There are no known chronic effects associated with the use of this product.

Exposure Guideline Summary: The Occupational Safety and Health Administration (OSHA) and the American Conference of Governmental Industrial Hygienists (ACGIH) have established Permissible Exposure Limits (PELs) and Threshold Limit Values (TLVs), respectively, for some constituents in this product. Refer to Section 2 for more information. Bristol-Myers Squibb has not developed an exposure guideline for either of these KeriR products.

Carcinogen Lists IARC: No. NTP: No. OSHA: No.

Target Organs: No known target organs.

Medical Conditions Aggravated by Exposure: None known.

Medical Surveillance Recommendation: None.

For more information refer to Section 11: Toxicological Information.

4. FIRST AID MEASURES

Ingestion: Get medical attention. Do NOT induce vomiting. If vomiting should occur, lower head to below knees to avoid aspiration.

Inhalation: This material is not expected to produce an inhalation exposure at ambient conditions. Remove exposed person to fresh air. If person is not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Get medical attention.

Skin Contact: If contact with constituents of the product should occur during manufacture, remove contaminated clothing. Wash skin with plenty of water for 15 minutes.

Eye Contact: Hold eyelids apart and flush with running water for at least 15 minutes. Get medical attention if signs of irritation develop.

Note to physicians: Products contain some white petrolatum USP (petroleum distillate product). Induction of vomiting is not warranted.

5. FIRE FIGHTING MEASURES

Flash point: > 200 degrees F.

Autoignition Temperature: Not applicable.

Flammability limits
LEL: Not applicable.
UEL: Not applicable.

Combustibility of Dusts: Not applicable.

Extinguishing Media: In case of fire, use carbon dioxide, foam, or dry chemical.

Firefighting Instructions: Firefighters should wear self-contained breathing apparatus, flame and chemical resistant clothing, boots, and gloves. Evacuate personnel to upwind direction, remove unneeded material, and cool containers with water from a maximum distance. Caution should be used when using water or foam as frothing might occur, especially if sprayed into containers of hot, burning liquid.

Hazardous Combustion Products: CO, CO2, NOx, silicon oxides, sodium oxide, formaldehyde, acrolein, acrylate monomers and hydrocarbons.

Unusual Hazards: None.

6. ACCIDENTAL RELEASE MEASURES

Spill/Clean-up: Use wet mop, damp sponge, or wet/dry vacuum. Place collected material in a suitable container for disposal. Do not allow spill to enter sewers or waterways.

7. HANDLING AND STORAGE

Handling Precautions: Avoid unnecessary inhalation, skin, or eye contact with this material.

Container Requirements: Plastic (high density polyethylene) containers as described in Section 1.

Storage Conditions: Store product at room temperature and keep tightly closed.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation Requirements: Special ventilation requirements are not necessary during use of this product. During manufacture, enclosure of processes or local exhaust ventilation is required.

Respiratory Protection: Respiratory protection is not necessary during use of this product. When product is manufactured, if engineering controls are not sufficient to control dust/mist exposure, wear approved* respiratory protection for dusts/mists that are appropriate for exposure potential. Self-contained breathing apparatus should be available for emergency use.

*NIOSH approves respiratory protection in the United States.

Eye Protection: Wear safety goggles (ANSI Z87.1) during manufacturing. Wear eye protection during occupational use of this product.

Protective Gloves: Protective gloves are not necessary during use of this product.
If the potential exists for dermal contact with the product or its constituents during manufacturing, wear nitrile or low protein, powder free latex gloves. Please note that employees allergic to natural rubber latex should use nitrile gloves.

Special Clothing: Special clothing is not necessary during use of this product.

Wear protective overalls during manufacturing whenever the potential exists for contact with the product or its constituents.

Hygiene: During manufacture, wash hands after handling product constituents or the product before eating, smoking, using lavatory, and at the end of the day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State/Color: Smooth, white, thick liquid.
Boiling point: Not available.
Evaporation rate: Not available.
Flash point: >200 degrees F.
Freezing point/Melting point: Not available.
Octanol/water partition coefficient: Not available.
Odor: KeriR Advanced Moisture Therapy is perfumed.
pH: Not available.
Solubility in water: Not available.
Specific gravity: Not available.

Vapor density: If adequate temperature caused the product to volatilize, its vapor density would be greater than 1 (heavier than air) with the exception of the water present in the product which would rise as steam.
Vapor Pressure: Not available.
Viscosity: More viscous than water.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Incompatibilities: May react with strong oxidizing agents.

Conditions of Reactivity: None known.

Hazardous Decomposition Products CO, CO2, NOx, silicon oxides, sodium oxide, formaldehyde, acrolein, acrylate monomers and hydrocarbons.

Hazardous Polymerization: Will not occur.

Explosion data relative to mechanical impact: Not applicable.

Explosion data relative to static discharge: Not applicable.

11. TOXICOLOGICAL INFORMATION

For KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy unless otherwise indicated.

RTECS # (U.S.): None assigned.

ACUTE: Under normal conditions of use and exposure, KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy do not produce irritation or sensitization.

LD 50 for product: Not available.

LC 50: Not tested.

CHRONIC
Carcinogenicity: KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy have not been evaluated for carcinogenic potential. These products meet the guidelines of Proposition 65 in California.

Mutagenicity: Material has not been evaluated for mutagenicity.

Teratogenicity: Material has not been evaluated for potential to produce adverse effects on the embryo or fetus.

Reproductive Effects: Material has not been evaluated for reproductive effects.

Toxicological synergistic products: None known.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: Not available.

Chemical Fate Information: Not available.

13. DISPOSAL CONSIDERATIONS

Disposal: Dispose of in accordance with National, State, Local, and applicable country regulations.

14. TRANSPORT INFORMATION

DOMESTIC
Hazard Class (UN #): Not a DOT regulated material.
Proper shipping name: Not applicable.
Label requirements: Not applicable.
Placard requirements: Not applicable.
Limited Quantity Exemption: Not applicable.

INTERNATIONAL
Hazard Class (UN #): Not a regulated material.
Proper shipping name: Not applicable.
Label requirements: Not applicable.
Placard requirements: Not applicable.
Limited Quantity Exemption: Not applicable.

15. REGULATORY/STATUTORY INFORMATION -- not meant to be all inclusive.

U.S. Federal: None noted.

U.S. - California: All levels within these products are acceptable within Proposition 65 limits.

International: None noted.

EC Labeling: Not required.

16. OTHER INFORMATION

February 18, 2003: The MSDS for KeriR Advanced and Sensitive Skin Moisture Therapy was updated to reflect a change in the naming of the substance.

This material safety data sheet (MSDS) is intended for use by personnel who handle this material as part of their job responsibilities or individuals who use the product. It does not address proper techniques for use and application of the product.

Information concerning use and application of this material should be obtained from the container and/or the case containing multiple containers.

The information contained in this MSDS is believed to be accurate and represents the best information available at the time of preparation. However, we make no warranty, express or implied, with respect to such information, and we assume no liability from its use.

C0074a

Assurance

PrecisionBioLogic

CryoCheck™
LA CHECK™
dRVVT Screen Reagent
Certificate of Analysis

Product Identification

Catalogue Number: **CHK-10**
Lot Number: **CHK-014**
Expiry: **2007-07**

Test System Information

Instrument: **Stago STA-R***
Instrument: **Stago ST4†**
Pooled Normal Plasma: **CryoCheck Pooled Normal Plasma**
LA Positive Control: **CryoCheck Lupus Positive Control**
Weak LA Positive Control: **CryoCheck Weak Lupus Positive Control**

The following are acceptance criteria and lot-specific results for CryoCheck LA Check.

	Acceptance Criteria	Result
Appearance *(Thawed)*	Translucent pale green solution, free of foreign particles.	Pass
Performance		
*Target recovery with pooled normal plasma	≤41.3 sec	39.3 sec
*Target recovery with lupus positive control plasma	>80.0 sec	94.1 sec
*Target recovery with weak lupus positive control plasma	>41.3 sec	57.1 sec
†Precision with lupus positive control plasma	CV <10 %	2.2 %
†Reagent stability at 2 to 8°C for 48 hrs	CV <10 %	2.1 %

CE CRYOCHECK

1.800.267.2796
info@precisionbiologic.com

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Assurance

PrecisionBioLogic

CryoCheck™ LA SURE™

dRVVT Confirmatory Reagent

Certificate of Analysis

Product Identification

Catalogue Number: **SUR-10**
Lot Number: **SUR-013**
Expiry: **2007 - 10**

Test System Information

Instrument: **Stago STA-R***
Instrument: **Stago ST4†**
Pooled Normal Plasma: **CryoCheck Pooled Normal Plasma**
LA Positive Control: **CryoCheck Lupus Positive Control**
Weak LA Positive Control: **CryoCheck Weak Lupus Positive Control**

The following are acceptance criteria and lot-specific results for CryoCheck LA Sure.

	Acceptance Criteria	Result
Appearance *(Thawed)*	Translucent pale pink solution, free of foreign particles.	Pass
Performance		
*Target recovery with pooled normal plasma	≤1.1 ratio	1.0 ratio
*Target recovery with lupus positive control plasma	>1.5 ratio	2.1 ratio
*Target recovery with weak lupus positive control plasma	>1.1 ratio	1.4 ratio
†Precision with lupus positive control plasma	CV <10 %	2.1 %
†Reagent stability at 2 to 8°C for 48 hrs	CV <10 %	3.1 %

The above ratios were calculated using CryoCheck LA Check Lot # CHK-013

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PrecisionBioLogic

CryoCheck™
LUPUS POSITIVE CONTROL
Quality Control Certificate

Product Identification

Catalogue Number: **CCLP-05, CCLP-10**
Lot Number: **6227**
Expiry: **2007 - 09**

Lupus Anticoagulant Assays	Reagent / Instrument	Test Results	Normal Range
APTT (Lupus Sensitive)	IL APTT-SP / STA	141.4	29.1-39.1 sec
APTT (1:1 Normal Mix)	IL APTT-SP / STA	110.9	29.1-39.1 sec
APTT (1:1 Saline)	IL APTT-SP / STA	116.1	40.2-55.1 sec
Kaolin Clotting Time (KCT)	Sigma / ST4	277	50-130 KCT Units
Dilute Russell's Viper Venom Time (dRVVT)	CryoCheck LA Check & LA Sure / MDA 180	2.2	0.6-1.2 ratio
Hexagonal Lupus Anticoagulant (HLA)	Stago Staclot LA / STA-R	87	0.0-10.0 sec
Tissue Thromboplastin Inhibition Time (TTI Ratio)	Thromborel S / ST4	2.6	0.5-1.2 ratio
Platelet Neutralization Procedure (PNP)	CryoCheck Platelet Lysate / STA	51.0	0.0-3.8 sec

Immunological Assays	Reagent / Instrument	Test Results*	Normal Range
IgG Anticardiolipin Ab	CORGENIX / ELISA	86	0-22 GPL Units
IgM Anticardiolipin Ab	CORGENIX / ELISA	16	0-10 MPL Units
IgA Anticardiolipin Ab	CORGENIX / ELISA	9	0-21 APL Units
IgG Anti-beta-2-glycoprotein 1	CORGENIX / ELISA	146	0-20 SGU Units
IgM Anti-beta-2-glycoprotein 1	CORGENIX / ELISA	61	0-20 SMU Units
IgA Anti-beta-2-glycoprotein 1	CORGENIX / ELISA	59	0-20 SAU Units
IgG Anti-phosphatidylserine	CORGENIX / ELISA	53	0-15 GPS Units
IgM Anti-phosphatidylserine	CORGENIX / ELISA	41	0-21 MPS Units

Results may vary depending on instrument, method and technique used.
* Test results are the average of duplicate testing.

CE CRYO CHECK

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info@precisionbiologic.com

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Assurance

Helena Laboratories

1530 LINDBERGH DRIVE
PO BOX 752
BEAUMONT TX 77704 0752
Toll Free 800-231-5663
Local 409 842 3714

FAX (Orders Only) 409 842 9661
FAX (General) 409 842 6241

NINO RODONAIA
MSDS Evaluator

PRODUCT NAME Lyophilized Platelets

PRODUCT CATALOG NUMBER: 5371

The above product contains no hazardous or carcinogenic chemicals in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the product should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

Nino Rodonaia
MSDS Evaluator

REFERENCES

1. Occupational Safety and Health Administration, Code of Federal Regulations,29,Part 1910.1000,1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

SOLUTIONS DEPARTMENT
MSDS for METHYLENE BLUE STAIN

1 - Site Specific Information

FLAMMABLE STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: METHYLENE BLUE STAIN, METHYLENE BLUE

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

- Section II - Hazardous Ingredients

MATERIAL	%	CAS#
METHYLENE BLUE	0.25	7220-79-3
POTASSIUM HYDROXIDE	0.01	1310-58-3
REAGENT ALCOHOL	25.00	N/A
H2O	74.74	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	3	3	1	3

SPECIAL HAZARD RATING: REPRODUCTIVE TOXIN

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

NERL DIAGNOSTICS

Certificate of Analysis

Product: 9800-3
Lot No: SAMPLE

Release Date: 10/9/2001
Expiration Date: 09-2002

Description: Reagent Grade Water, C.A.P., A.C.S., USP/NF and N.C.C.L.S

Components	Data	Specification
Ammonia (ppm)	<0.3	< 0.3
Bacteriological Purity* (CFU/mL)	<1	< 10
Calcium	Pass/Clear	Pass/Clear
Carbon Dioxide	Pass/Clear	Pass/Clear
Chloride (ppm)	<0.5	< 0.5
Coliforms (per Liter)	<1	< 1
Copper (ppm)	<1	< 1
Heavy Metal (ppm)	<0.01	< 0.01
pH*	5.4000	5.0 to 7.0
Iron (ppm)	<1	< 1
Conductivity* (umhos/cm)	1.0	≤ 2.0
Silicates (ppm)	<0.01	< 0.01
Sodium (ppm)	<0.1	< 0.1
Total Organic Carbon* (mg C/L)	0.0200	< 0.5
Organics**	Passes Test	Passes Test
Sulfate	Pass/Clear	Pass/Clear
Volatile Organics	Pass	Passes Test
Resistivity* (megohm-cm)	17.80000	> 10

*Meets stated values at the time of manufacture.

**Substance reduction by $KMnO_4$, ACS Method.

Over 45 additional trihalomethanes and volatile organics are assayed. For a list of these substances, click here.

Prepared typically at 18 megohm/cm specific resistance using reverse osmosis, mixed bed deionization, activated carbon filtration, to 0.2 micron.

Tina Lombari

Date: 10/9/2001

Tina Lombari
NERL Diagnostics Quality Assurance

For more information, please call us toll-free at (800) 556-7575, or contact us via email at techassistance@nerl.com.

Assurance

PrecisionBioLogic

CryoCheck™
NORMAL DONOR SET

For Research Use Only. Not for use in Diagnostic Procedures.

Catalogue Number: **CCNS-10**
Lot Number: **ND32-008**
Expiry: **2007 - 03**

Donor Information			PT (sec)	APTT (sec)	Clauss Fibrinogen (g/L)
ID #	Age	Sex			
F3277	39	Female	11.8	34.6	3.05
F3278	40	Female	11.9	34.7	3.30
F3279	36	Female	11.8	34.1	3.25
F3280	19	Female	12.8	42.6	2.25
F3281	34	Female	12.7	38.9	3.14
F3282	25	Female	12.8	34.6	3.14
F3283	53	Female	11.7	35.8	2.95
F3284	39	Female	11.1	38.8	2.80
F3285	22	Female	12.2	41.2	2.56
F3286	41	Female	12.6	37.6	2.81
F3287	37	Female	12.4	33.7	3.09
F3288	39	Female	12.0	34.6	2.69
F3289	28	Female	11.4	38.9	2.60
M32103	29	Male	11.8	34.2	2.52
M32104	40	Male	13.2	41.3	2.43
M32105	38	Male	12.3	34.1	3.00
M32106	38	Male	11.9	35.2	2.69
M32107	25	Male	12.9	36.3	2.25
M32108	34	Male	12.0	37.4	3.00
M32109	43	Male	11.7	34.8	2.22
M32110	34	Male	12.0	36.6	2.99
M32111	44	Male	12.0	38.1	2.66
M32112	51	Male	12.4	41.3	3.36
M32113	32	Male	13.2	36.2	2.29
M32114	39	Male	11.5	38.5	2.62

Results may vary depending on materials and methods used

1.800.267.2796
info@precisionbiologic.com

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MSDS NOTIFICATION

CryoCheck products, manufactured and distributed by Precision BioLogic, are classified as medical devices under the Food and Drug Act and are therefore exempt from WHMIS legislation (2-56). The following information is provided for your convenience.

MANUFACTURER

Precision BioLogic Inc.
900 Windmill Road, Suite 100
Dartmouth, Nova Scotia
Canada B3B 1P7
Phone: (902) 468-6422 or (800) 267-2796
Fax: (902) 468-6421 or (800) 267-0796
E-mail: info@precisionbiologic.com

CHEMICAL COMPOSITION

Supplied in cryo-vials, each vial containing 0.5mL to 4.0mL of human plasma

USE

In vitro controls and reagents for diagnostic coagulation procedures

HAZARDOUS INGREDIENTS

Human plasma should be handled as a potential biohazard

PHYSICAL DATA

Physical State:	Stored frozen, liquid when thawed
Appearance:	Yellowish, translucent
Odor:	A slight odor of human fluids
pH:	6.5 - 7.5
Flash Point:	Unknown

FIRE OR EXPLOSION HAZARD

Non-combustible, use extinguishing media appropriate to surrounding fire conditions.

Special Fire Fighting Procedures

Wear a self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Accidental Release Measures

Ventilate area and wash spill site with 2% bleach after material pick-up is complete.

REACTIVITY DATA

None

HEALTH HAZARDS

Human source material, handle as if capable of transmitting infectious agents.

INHALATION: May irritate respiratory system.
EYE CONTACT: May cause irritation.
SKIN: May enter system through open wounds.
INGESTION: May cause abdominal pain, nausea and vomiting. Human source material from which this product was derived was found negative or non-reactive for Hepatitis B surface antigens, for Hepatitis C virus, and antibody to HIV by U.S. FDA approved test methods. No test method can offer complete assurance that infectious agents are absent. This product should be handled and discarded at the Biosafety Level 2 or higher as recommended for any potentially infectious human specimen cited in the Center for Disease Control/National Institute of Health manual "Biosafety in Microbiological and Biomedical Laboratories", 1993.

FIRST AID

INHALATION:
Remove to fresh air. If breathing becomes difficult, call a physician.

EYE CONTACT:
Flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

SKIN CONTACT:
Flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

INGESTION:
Wash out mouth with water provided person is conscious. Call a physician.

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. PRECISION BIOLOGIC INC. SHALL NOT BE HELD LIABLE FOR ANY DAMAGE OR INJURY RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT(S).

Assurance

PrecisionBioLogic

CryoCheck™
POOLED NORMAL PLASMA
Quality Control Certificate

Product Identification

Catalogue Number: **CCN-10; CCN-40**
Lot Number: **A1016**
Expiry: **2006 - 09**

Test System Information

Instrument: **Stago STA-R**
PT Reagent: **Hemoliance RecombiPlasTin**
APTT Reagent: **IL APTT-SP**

All plasmas used in the manufacture of CryoCheck Pooled Normal Plasma are tested and have:

- negative results when screened for lupus anticoagulants.
- negative results when screened for HIV 1 & 2, HCV, HbsAg, and syphilis.
- been found acceptable when screened for CJD/nvCJD risk.

All donors used in CryoCheck Pooled Normal Plasma are tested and found negative for Activated Protein C Resistance.

Each lot of CryoCheck Pooled Normal Plasma has been assayed and confirmed to be at normal levels for all coagulation factors.

The plasma collection process is validated to confirm that all plasmas used are platelet-poor prior to freezing.

For controls to work effectively, control ranges must be established in each laboratory. Optimally, control data should be collected from at least 20 runs from different days before control ranges are calculated[1].

The results presented below are calculated from data specific to the reagent/instrument combination used for internal quality control testing at Precision BioLogic. Results may vary depending on instrument, method and technique used.

PT	INR	APTT
12.8 sec	1.05	32.8 sec

[1]Cembrowski GS, Carey RN. Laboratory quality management. Chicago: ASCP Press; 1989.

CE CRYOCHECK

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Helena Laboratories

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BEAUMONT TX 77704 0752
Toll Free 800-231-5663
Local 409 842 3714

FAX (Orders Only) 409-842-9561
FAX (General) 409-842-6244

NINO RODONAIA
MSDS Evaluator

PRODUCT NAME:__Ristocetin (10x0.5mL)___

PRODUCT CATALOG NUMBER:__5199_____

The above product contains no hazardous or carcinogenic chemicals in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the product should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

Nino Rodonaia
MSDS Evaluator

REFERENCES

1. Occupational Safety and Health Administration, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List
5. Florida Substance List

BECKMAN COULTER.

MATERIAL SAFETY DATA SHEET

Section 1 Company and Product Identification

Product Name	**Silicone Vacuum Grease**
Part Number	335148
Product Use	For laboratory use only. See product literature for details.
Manufacturer	Beckman Coulter, Inc. 4300 Harbor Blvd. Fullerton, CA 92835-3100, U.S.A.
Distributor and Emergency Phone No.	☎ Refer to attached list, Document ID: 472050, for local distributor and emergency phone numbers.

Doc. ID *335148-75 AB*
Issued (year/month/day)
Revised (year/month/day) *2005/04/26*

Section 2 Composition and Information on Ingredients

Hazardous Ingredients: **None**

Section 3 Hazards Identification

Emergency Overview

White; Translucent; Viscous liquid; Odorless
Nonflammable gel.
Does not meet EU, OSHA or WHMIS criteria for hazardous materials.

Physical Hazards	No physical hazards were determined from a review of available literature.
Potential Health Effects Summary	This product does not meet EU, OSHA or WHMIS criteria for hazardous materials.

Product Hazard Classifications	**EU:** Not applicable	**WHMIS:** Not applicable	**US OSHA:** Not applicable

Beckman Coulter Safety Rating		Code
	Flammability (Section V): 0 **Health (Section XI):** 0 **Reactivity with Water (Section X):** 0 **Contact (Section VIII):** 0	0=none 1=slight 2=caution 3=severe

Section 4 First Aid Measures

Inhalation	If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.
Eye Contact	If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. If pain or irritation occur, obtain medical attention.
Skin Contact	In case of skin contact, flush with copious amounts of water for at least 15 minutes. If pain or irritation occur, obtain medical attention.

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Section 4 First Aid Measures (Continued)

Ingestion	If ingested, wash mouth out with water. If irritation or discomfort occurs, seek medical attention.

Section 5 Fire Fighting Measures

Flash Point	100°C(212°F)
Flammable Limits	Not applicable
Autoignition Temp.	Not applicable
Extinguishing Media	Use extinguishing media suitable for surrounding fire.
Special Fire and Explosion Hazards	No special hazards determined.
Hazardous Combustion Products	Due to the composition and volume of this product, combustion products generated from it are not expected to present a significant hazard.
Protective Equipment for Firefighters	Self-contained breathing apparatus is recommended for firefighters.

Section 6 Accidental Release Measures

Personal Precautions	No special precautions are necessary. Use good laboratory procedures.
Spill and Leak Procedures	Wipe up spill and place in container suitable for disposal.
Environmental Precautions	Contain spill to prevent migration.

Section 7 Handling and Storage

Handling Precautions	No special precautions are necessary; use good laboratory procedures.
Recommended Storage Conditions	Keep in the original container at room temperature.

Section 8 Exposure Controls and Personal Protection

Exposure Limits	
US OSHA:	None established
ACGIH:	None established
DFG MAK:	None established
Engineering Controls	No special engineering controls are required. Use with good general ventilation.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection.
Eye Protection	Safety glasses are recommended to prevent eye contact.
Skin Protection	Impervious gloves are recommended to prevent repeated or prolonged skin contact.

Section 9 Physical and Chemical Properties

Physical State	Viscous liquid
Color	White
Transparency	Translucent
Odor	Odorless
Odor Threshold	Not applicable
pH	Not applicable
Boiling Point	>35°C(95°F)
Melting Point	Not available
Specific Gravity	1.1 @20°C
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Evaporation Rate	Not applicable
Solubility	
Water	Not available
Organic	Not available

Section 10 Stability and Reactivity

Stability	Stable under normal temperatures and pressures.
Hazardous Incompatibilities	No hazardous incompatibilities were determined from a review of literature available.
Hazardous Decomposition Products	Decomposition products posing significant hazards are not expected from the small volume of this product present during normal use.
Conditions to Avoid	None determined.

Section 11 Toxicological Information

Toxicity Data for Hazardous Ingredients	Not applicable
Primary Routes of Exposure	The most likely routes of exposure are skin and eye contact.
Potential Effects of Acute Exposure	None identified.
Potential Effects of Chronic Exposure	None identified.
Symptoms of Overexposure	None identified.
Carcinogenicity	This product does not contain a reportable concentration (≥ 0.1%) of any ingredient listed as carcinogen by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.
Other Effects	None identified.

Section 11 Toxicological Information (Continued)

Conditions Aggravated by Exposure	None identified.

Section 12 Ecological Information

Ecotoxicity	No information available.
Biodegradability	No information available.
Mobility	No information available.

Section 13 Disposal Considerations

Waste Disposal	Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

Section 14 Transport Information

Transportation of this product is not regulated under ICAO, IMDG, US DOT, European ADR or Canadian TDG.

Section 15 Regulatory Information

US Federal and State Regulations

SARA 313	No ingredients listed
CERCLA RG's, 40 CFR 302.4	No ingredients listed
California Proposition 65	No ingredients listed
Massachusetts MSL	Silicone Dioxide, chemically prepared is listed.
New Jersey Dept. of Health RTK List	Silicone Dioxide, chemically prepared is listed.
Pennsylvania RTK	Silicone Dioxide, chemically prepared is listed.

EU Labeling Classification

Preparation not classified.

Canada

This product does not meet WHMIS criteria for hazardous materials.

PIN:	Not applicable
Ingredients on Ingredient Disclosure List:	Silicone Dioxide, chemically prepared
Ingredients with unknown toxicological properties:	None

Section 16 Other Information

For further information, please contact your local Beckman Coulter representative.

WHILE BECKMAN COULTER, INC. BELIEVES THE INFORMATION CONTAINED HEREIN IS VALID AND ACCURATE, BECKMAN COULTER MAKES NO WARRANTY OR REPRESENTATION AS TO ITS VALIDITY, ACCURACY, OR CURRENCY. BECKMAN COULTER SHALL NOT BE LIABLE OR OTHERWISE RESPONSIBLE IN ANY WAY FOR USE OF EITHER THIS INFORMATION OR MATERIALS TO WHICH IT APPLIES. DISPOSAL OF HAZARDOUS MATERIALS MAY BE SUBJECT TO LOCAL LAWS OR REGULATIONS.

Printed in U.S.A.

SOLUTIONS DEPARTMENT
MSDS for SODIUM CHLORIDE, 0.85%

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I - General Information

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: SODIUM CHLORIDE, 0.85%; NaCl, 0.85%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PROD#
SODIUM CHLORIDE	0.85	7647-14-5	MALLINCKRODT	7581-20
DI-WATER	99.15	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	1	2	0	0

SPECIAL HAZARD RATING: EYE IRRITANT

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 6 MONTHS

Helena Laboratories

1530 LINDBERGH DRIVE
PO BOX 752
BEAUMONT TX 77704 0752
Toll Free 800-231-5663
Local 409 842 3714

FAX (Orders Only) 409 842 9561
FAX (General) 409 842 6241
TWX 910 884 5171
TLX 429861

NINO RODONAIA
MSDS Evaluator

PRODUCT NAME: __Tris Buffered Saline____

PRODUCT CATALOG NUMBER: __5365 _____

The above product contains no hazardous or carcinogenic chemicals in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the product should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

Nino Rodonaia
MSDS Evaluator

REFERENCES

1. Occupational Safety and Health Administration, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2 Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List
5. Florida Substance List

Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard. 29CFR 1910. 1200. Standard must be consulted for specific requirements.

QUICK IDENTIFIER
Common Name (used on label and list)
UHU White Glue Sticks

SECTION 1 -

Manufacturer's Name	UHU GmbH & Co. KG		
Address	Herrmannstrasse 7	Emergency Telephone No.	(800) 341-4674
77815 Buehl Germany		Other Information Calls	(800) 341-4674
Signature of Person Responsible for Preparation (Optional)		Date Prepared	04.09.2002

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY

Hazardous Component(s) (chemical & common name(s)	OSHA PEL	ACGIH TLV	Other Exposure Limits	% (optional)	CAS NO.
Contains no hazardous ingredients, product is based on an aqueous solution of polyvinylpyrrolidone (PVP)					
sodium stearate, glycerine and water					
Conform to ASTM-D-4236					
FDA approved for packaging in contact with food.					

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

Boiling Point	100 °C	Specific Gravity (H_2O=1)	NA	Vapour Pressure (mm Hg)	NA
Vapour Density (Air = 1)	NA				
Solubility in Water	100 % in water	Reactivity in Water	NA		
Appearance and Odor	White soft solid	Melting Point	64 - 65 °C		

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SECTION 4 - FIRE & EXPLOSION DATA

Flash Point NA - °C. Method Used NA Flammable Limits in Air % by Volume LEL Lower NA UEL Upper NA

Auto-Ignition Temperature NA Extinguisher Media Non flammable

Special Fire Fighting Procedures Non flammable

Unusual Fire and Explosion Hazards Non flammable

SECTION 5 - PHYSICAL HAZARDS (REACTIVITY DATA)

Stability Unstable ☐ Stable ☒ Conditions to Avoid None

Incompatibility (Materials to Avoid) None

Hazardous Decomposition Products

Hazardous Polymerisation May Occur ☐ Will Not Occur ☒ Conditions to Avoid None

SECTION 6 - HEALTH HAZARDS

1. Acute None

2. Chronic None

Signs and Symptoms of Exposure None

Medical Conditions Generality Aggravated by Exposure None known

Chemical Listed as Carcinogen or Potential Carcinogen

National Toxicology Program Yes ☐ No ☒

I.A.R.C. Monographs Yes ☐ No ☒

OSHA Yes ☐ No ☒

Emergency and First Aid Procedures None

ROUTES OF ENTRY

1. Inhalation NA
2. Eyes Rinsing with water
3. Skin Wash with water
4. Ingestion If large quantities ingested, treat as soap. See physician.

SECTION 7 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

Precautions to be Taken in Handling and Storage: No hazardous waste

Other Precautions: None

Steps to be Taken in Case Material is Released or Spilled: No hazardous waste

Waste Disposal Method (Consult federal, state, and local regulations): None

SECTION 8 - SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

Respiratory Protection (Specify Type): NA

Ventilation: NA

Local Exhaust: NA

Mechanical (General): NA

Special: NA

Other: NA

Protective Gloves: NA

Eye Protection: NA

Other Protective Clothing or Equipment: Wash with water

Work/Hygienic Practices: NA

Important

Do not leave any blank spaces. If required information is unavailable, unknown, or does not apply, so indicate.

1 - Site Specific Information

GENERAL STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: UREA, 5M

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

- Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/ PRODUCT#
UREA	30.0	57-13-6	J.T. BAKER	4204-05
WATER DI	70.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X			0	1	0	1

SPECIAL HAZARD RATING:

5 - Section IV - Storage and Stability

STORAGE: REFRIGERATE

STABILITY: 3 YEARS

MATERIAL SAFETY DATA SHEET

VERIDIEN®

VERIDIEN CORPORATION
11800 28th Street North
St. Petersburg, FL 33716
1-800-345-5444

1. PRODUCT IDENTIFICATION

PRODUCT NAME:	PRODUCT CLASS:	PRECAUTIONS:
VIRAGUARD® Hospital Disinfectant/Cleaner and Instrument Presoak	Alcohol-based Disinfectant/Cleaner and Instrument Presoak	Eye irritant, flammable
Hazardous Shipping Label: DOT: ORM-D (< 30 kg. (66 lbs.)) FLAM. LIQUID 3, UN 1987, PG III (> 30 kg. (66 lbs.))	PREPARED BY: Jerome Kern, Ph.D.	TITLE: Laboratory Director

For 24-hour EMERGENCY CONTACT, call CHEMTREC - DOMESTIC: 800-424-9300; INTERNATIONAL: 703-527-3887

2. CHEMICAL INGREDIENTS (Identity Information)

HAZARDOUS COMPONENTS* Specific Chemical Identity: (Common Name)				OTHER NON-HAZARDOUS COMPONENTS* Specific Chemical Identity: (Common Name)		
Ingredients	TLV (units)	Hazard Data	CAS NO.	Ingredients	TLV (units)	CAS NO.
EPA Reg. No. 60142-1 Isopropanol 70%	500 ppm PEL - 400 ppm	ACGIH OSHA	67-63-0	Propylene Glycol Water Fragrance		57-55-6 7732-18-5 N/A

3. PHYSICAL DATA

BOILING POINT (760 mm Hg)	FREEZING POINT:	VAPOR DENSITY (AIR=1)
175°F	-16.6°F	1.1
SPECIFIC GRAVITY (H_2O=1)	VAPOR PRESSURE:	VISCOSITY (@ 20°C)
0.8530 @ 20°C	39.5mm Hg	1.60 centistokes
pH @ 20°C	SOLUBILITY IN WATER, %BY WT.:	APPEARANCE AND ODOR:
5.0 - 7.0	Complete	Semi-clear liquid, lemon-alcohol odor
VOLATILES, % BY WEIGHT:	EVAPORATION RATE (Butyl Acetate=1)	
100	2.5	

4. FIRE & EXPLOSION HAZARD DATA

FLASH POINT (Test Method):	AUTOIGNITION TEMPERATURE:
79°F Tag Cup, ASTM D-56	645°F (ASTM E-659)

FLAMMABLE LIMITS IN AIR, % BY VOLUME:	LOWER	UPPER
(per ASTM E-681)	1.9	10.6

EXTINGUISHING MEDIA: Use alcohol-type or all-purpose type foams by extinguisher manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

SPECIAL FIRE-FIGHTING PROCEDURES:	UNUSUAL FIRE & EXPLOSION HAZARDS:
No special firefighting procedures required. Normal procedures include wearing NIOSH/MSHA approved self-contained breathing apparatus and turnout gear.	None

5. REACTIVITY DATA

STABILITY:	CONDITIONS TO AVOID:	INCOMPATIBILITY (Materials to avoid):
STABLE: ☒ UNSTABLE: ☐	Non-reactive	Acrylics, natural leathers
HAZARDOUS DECOMPOSITION PRODUCTS:	HAZARDOUS POLYMERIZATION:	CONDITIONS TO AVOID:
None	May Occur ☐ Will Not Occur ☒	Heat, sparks, flame.

6. PRECAUTIONS (Safe Handling & Use)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Avoid any ignition source until area of spill has been properly ventilated. Flush spills with water.

WASTE DISPOSAL METHOD:

Flush into drain and sanitary sewer; dilute with water.

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE:	OTHER PRECAUTIONS:
In storage and dispensing, avoid spillage and evaporation from the container. Caution. Flammable. Keep away from heat, sparks, and flame.	None

7. HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: INHALATION? No SKIN? No INGESTION? Yes

HEALTH HAZARDS (Acute & chronic):

INGESTION: Large quantity may cause stomach cramps, pain, nausea, vomiting & diarrhea.
SKIN ABSORPTION: No evidence of adverse effects from available information.
INHALATION: May cause mild irritation of eyes, nose and throat in a closed environment. No or minimal effect if normally ventilated.
SKIN CONTACT: No evidence of adverse effects from normal contact.
EYE CONTACT: Can cause slight irritation.
EFFECTS OF REPEATED OVEREXPOSURE: No evidence of adverse effects from available information.
LD_{50} EFFECTS: Nontoxic - OSHA-29 CFR 1910.1200

CARCINOGENICITY: NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO

SIGNS & SYMPTOMS OF EXPOSURE: N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N/A

EMERGENCY/FIRST AID PROCEDURES: Flush eyes with water.

8. CONTROL MEASURES

RESPIRATORY PROTECTION (Specify Type): None required

WORK/HYGENIC PRACTICES: Emergency eye wash should be available.

VENTILATION
- LOCAL EXHAUST N/A
- MECHANICAL (General) N/A
- SPECIAL: None required
- OTHER: None required

PROTECTIVE GLOVES? None required

EYE PROTECTION? None required

OTHER PROTECTIVE CLOTHING OR EQUIPMENT ? None required

9. SUPPLIER NOTIFICATION - SECTION 313

This product contains the following chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372:

CAS #	CHEMICAL NAME	% BY WEIGHT
67-63-0	Isopropanol	70%

10. PENNSYLVANIA WORKER & COMMUNITY RIGHT-TO-KNOW SECTION 307.2(a)

The materials in this product, which are required by Pennsylvania to be identified, are as follows:

INGREDIENTS	CAS #	% BY WEIGHT
See Page 1 for ingredients.		

All other specific chemical ingredients are held as a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know regulations.

11. NEW JERSEY WORKER & COMMUNITY RIGHT-TO-KNOW ACT Chapter 59, Subchapter 5(8:59-5.1)

The materials in this product, which are required by New Jersey to be identified, are as follows:

INGREDIENTS	CAS #
See Page 1 for ingredients.	

This information must be included in all MSDS that are copied and distributed for this material.

The information and recommendations presented in this MSDS are believed to be accurate on the date hereof. Vericlen Corporation makes no representation on its completeness or accuracy. It is the user's responsibility to determine the product's suitability for its intended use, the product's safe use, and proper disposal. No representation or warranties, either expressed or implied, are made with respect to the information provided in this MSDS or to the product to which such information refers.

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials designated. Safe use of the materials is the responsibility of the user.

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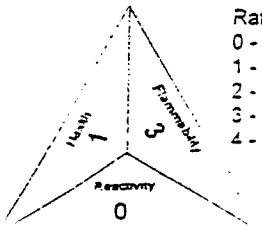

Ratings:
0 - Minimum
1 - Slight
2 - Significant
3 - Serious
4 - Extreme

Material Safety Data Sheets

Virology

010556

Material Safety Data Sheets

010557

SIGN-IN SHEET
FOR MSDS REVIEW

(PLEASE PRINT LAST NAME FIRST, FIRST NAME LAST, AND DATE)

1. VILLEGAS, MARCO 10/6/04
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MATERIAL SAFETY DATA SHEETS

The Material Safety Data Sheet (MSDS) is the most valuable reference source for both the employee and the Chemical Hygiene or Safety Officer. It gives most of the information necessary in evaluating the hazards of chemicals that employees may be exposed to in the workplace. It has been a requirement in California since April 21, 1983, for information and training on hazardous substances to be provided to each employee prior to assignment to any work area in which the employee has not received previous information or training.

Just as each employee's medical record should be preserved and maintained for at least the duration of employment plus thirty years, every MSDS related to an employee exposure in the workplace should be similarly retained and be available on request. The Chemical Hygiene Officer has the responsibility in the clinical laboratory to maintain and update a library of all Material Safety Data Sheets and to provide employee training which must include as a minimum:

1. Any health hazards known to be associated with exposure to the hazardous substance(s).

2. Proper instructions for handling, necessary personal protective equipment or other safety precautions necessary to prevent or minimize exposure to the hazardous substance(s).

3. Emergency procedures to be followed for spills, fire, disposal and first aid.

Material Safety Data Sheets are usually composed of nine sections. These are as follows:

1. **PRODUCT IDENTIFICATION**-which contains the manufacturer's name, address, regular and emergency telephone numbers (including area code) and the trade or common name of the product along with any of its commonly used synonyms.

2. **HAZARDOUS INGREDIENTS**- which contains components of the product identified according to a recognized system of nomenclature. The percentages of hazardous ingredients are often given along with the class of hazard they present such as flammability, reactivity, toxicity, etc. Exposure limit values such as PELs for components of the product are usually listed in this section. Be aware that California exposure limits are many times more restrictive than Federal regulations.

3. **PHYSICAL DATA**- which describes what the material or mixture is like and how it behaves. Included are such characteristics as boiling point, melting point, freezing point, specific gravity, vapor pressure, solubility or vapor density. Its important to know some of these characteristics when handling the hazardous product.

4. **FIRE AND EXPLOSION HAZARD DATA**- which gives flash point, autoignition temperature and lower and upper flammability limits. Knowledge of the lower flammability limit aids in determining the volume of ventilation needed for an enclosed space to prevent fires and explosions. Emergency response information for fighting fires is usually found in this section.

5. **HEALTH HAZARD INFORMATION**- which gives a combined estimate of the hazard of the total product sometimes as a concentration standard in air. Common symptoms of over-exposure are given along with first aid steps to be taken in case of eye or skin contact, inhalation, or ingestion. These are emergency procedures only and the victim should be examined by a doctor as soon as possible after exposure.

6. **REACTIVITY DATA**- which gives the stability of the product under any conditions of storage, handling, use or misuse. Incompatibilities to other common materials or contaminants are listed such as acids reacting to bases. Hazardous decomposition products are detailed as well as the products

propensity to undergo hazardous polymerization, a chemical reaction which gives off an extremely high or uncontrolled release of energy.

7. **SPILL, LEAK AND DISPOSAL PROCEDURES**- which gives precautions to be taken in the event of spills or leaks and equipment, absorbents, or decontaminants to be used. Evacuation protocol or need for special safety personnel will be listed in this section. Waste disposal requirements and procedures will also be detailed. Be aware that local, state and federal regulations may vary and that the most stringent applies.

8. **SPECIAL PROTECTION INFORMATION**-gives appropriate protective equipment to wear when handling the product as well as ventilation requirements to minimize contamination or potential hazardous conditions such as flammable or explosive atmospheric concentrations in the workplace.

9. **SPECIAL PRECAUTIONS**- gives any additional or special precautions not addressed elsewhere in the MSDS. It may also contain reference sources for obtaining additional information as well as the name and address of the responsible person who completed the MSDS and the date the information was compiled.

10-1-93 K. Rekut
10-27-9 [illegible]
10-11-95 [illegible]

HAZARD IDENTIFICATION AND LABELING AT THE NORTH HOLLYWOOD LABORATORY

Each chemical or solution used or prepared at the North Hollywood Laboratory of S.C.P.M.G. will be identified and interpreted as being hazardous based on criteria established by CAL-OSHA and listed in California's General Industry Safety Order Section 5194, Title 8, of the California Administrative Code. Subsection 5(A-D) lists specific details of identifying hazards as follows:

(5) The manufacturer, importer, or employer shall determine the hazards of substances as follows:

(A) If a mixture has been tested as a whole to determine its hazards, the results of such testing shall be used to determine whether the mixture is hazardous;

(B) If a mixture has not been tested as a whole to determine whether the mixture is a health hazard, the mixture shall be assumed to present the same health hazards as do the components which comprise one percent (by weight or volume) or greater of the mixture, except that the mixture shall be assumed to present a carcinogenic hazard if it contains a component in concentrations of 0.1 percent or greater which is considered to be a carcinogen under Section 5194 (d) (4);

(C) If a mixture has not been tested as a whole to determine whether the mixture is a physical hazard, the manufacturer, importer, or employer may use whatever scientifically valid data is available to evaluate the physical hazard potential of the mixture; and

(D) If the employer has evidence to indicate that a component present in the mixture in concentrations of less than one percent (or in the case of carcinogens, less than 0.1 percent) could be released in concentrations which could exceed an established permissible exposure limit or ACGIH Threshold Limit Value, or could present a health hazard to employees in those concentrations, the mixture shall be

assumed to present the same hazard.

Specific data concerning the hazards of a chemical or solution purchased or distributed by the North Hollywood Laboratory as well as safety precautions to be taken when dealing with those chemicals, will be based on information contained in Material Safety Data Sheets (MSDS), from commercial labels, or other reference books.

In indicating the degree of physical hazard of a chemical mixture prepared at the North Hollywood Laboratory Solutions Department, our labeling will include a hazard rating in each of four categories: (HEALTH, REACTIVITY, FLAMMABILITY, CONTACT). A numerical rating will indicate the severity of the hazard with (0=NONE, 1=SLIGHT, 2=MODERATE, 3=SEVERE, 4=EXTREME, 5= UNKNOWN). The UNKNOWN rating will only be used in the event that no MSDS sheet has been received for a chemical and there are no specific hazard warnings on the chemical label or in reference literature. When there is more than one hazardous component in a mixture or solution, the hazard rating will indicate the highest hazard level in each category that one or more of the components might contribute to. An example of a hazard evaluation might be the following: 1%w/v Sudan IV + 50%v/v Acetone, 35%v/v Reagent Alcohol, 15%v/v Water. The individual ratings would be:

SUDAN IV ---------- 3 - HEALTH
3 - CONTACT
0 - REACTIVITY
0 - FLAMMABILITY

REAGENT ALCOHOL ---- 1 - HEALTH
1 - CONTACT
1 - REACTIVITY
3 - FLAMMABILITY

ACETONE ---------- 2 - HEALTH
2 - CONTACT
1 - REACTIVITY
4 - FLAMMABILITY

REAGENT MIXTURE ---- 3 - HEALTH
3 - CONTACT
1 - REACTIVITY
4 - FLAMMABILITY

We have observed differences of as much as two hazard levels between manufacturers of the same chemical so it can be seen that the numerical hazard rating system is open to interpretation and should not be used as a hard and fast rule when evaluating a chemicals potential hazard. We will, however, be using the highest numerical hazard rating if there is such a discrepancy between manufacturers. When no numerical rating is given by a manufacturer we will be using the definitions as follows in developing our numerical rating.

HAZARD DEFINITIONS USED IN LABELING SOLUTIONS

HEALTH HAZARD (Due to breathing or ingestion)

0= No hazard.

1= Can cause irritation if not treated.

2= Can cause injury requiring prompt treatment.

3= Can cause serious injury despite medical treatment.

4= Can cause death or major injury despite medical treatment.

CONTACT HAZARD (With skin or eyes)

0= No harmful effects.

1= May cause slight irritation with chronic or prolonged contact.

2= May cause immediate irritation or moderate burns with short term contact. May require medical treatment.

3= May cause immediate severe injury through burns or long term health risk due to skin absorption. May require prompt medical attention.

4= May cause major injury or fatality due to either severe burns or skin absorption. May require emergency medical attention.

REACTIVITY HAZARD

0= Normally stable. Not reactive with water.

1= Normally stable. Unstable at high temperature and pressure. Reacts with water.

2= Normally unstable but will not detonate.

3= Can detonate or explode but requires strong initiating force, dehydration, or heating under confinement.

4= Readily detonates or explodes.

FLAMMABILITY HAZARD

0= Will not burn.

1= Ignites after considerable preheating.

2= Ignites after moderate heating.

3= Can be ignited at all normal temperatures.

4= Very flammable gases or very volatile flammable liquid.

The criteria used in marking SAFETY PRECAUTIONS on our reagent labels will be similar to those used in developing a numerical hazard rating. The greatest precautionary measure will be marked when there is a discrepancy between manufacturers and if no data has been received on a newly purchased product, safety precautions in each of the four areas will be marked until the safety or hazard of that product has been established.

In lieu of developing a separate MSDS for each mixture or solution prepared by the Solutions Department, each hazardous ingredient will be listed on the label so that any employee seeking specific and more detailed information can refer to the MSDS for that ingredient. An MSDS for each chemical or hazardous commercial product shall be on file in the Solutions Department. Should any employee wish to obtain a copy of an MSDS it can be obtained by completing a MSDS Copy Request Form which will be available through each department supervisor.

HAZARD DEFINITIONS USED IN LABELING SOLUTIONS

HEALTH HAZARD (Due to breathing or ingestion)

0 = No hazard.
1 = Can cause irritation if not treated.
2 = Can cause injury requiring prompt treatment.
3 = Can cause serious injury despite medical treatment.
4 = Can cause death or major injury despite medical treatment.

CONTACT HAZARD (With skin or eyes)

0 = No harmful effects.
1 = May cause slight irritation with chronic or prolonged contact.
2 = May cause immediate irritation or moderate burns with short term contact. May require medical treatment.
3 = May cause immediate severe injury through burns or long term health risk due to skin absorption. May require prompt medical attention.
4 = May cause major injury or fatality due to either severe burns or skin absorption. May require emergency medical attention.

REACTIVITY HAZARD

0 = Normally stable. Not reactive with water.
1 = Normally stable. Unstable at high temperature and pressure. Reacts with water.
2 = Normally unstable but will not detonate.
3 = Can detonate or explode but requires strong initiating force, dehydration, or heating under confinement.
4 = Readily detonates or explodes.

FLAMMABILITY HAZARD

0 = Will not burn.
1 = Ignites after considerable preheating.
2 = Ignites after moderate heating.
3 = Can be ignited at all normal temperatures.
4 = Very flammable gases or very volatile flammable liquid.

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2 side

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THE FOLLOWING LIST OF CHEMICALS HAVE BEEN DESCRIBED AS SUSPECTED OR CONFIRMED CARCINOGENS, TERATOGENS, OR MUTAGENS BY EITHER THE CHEMICAL MANUFACTURER OR A RECOGNIZED AGENCY TESTING FOR CHEMICAL TOXICITY. THE PROPER PRECAUTIONS TO BE TAKEN WHEN HANDLING THESE CHEMICALS SHOULD BE DETAILED IN MATERIAL SAFETY DATA SHEETS LOCATED IN EACH DEPARTMENT. ANY QUESTIONS RELATED TO THIS SHOULD BE TAKEN UP WITH EACH DEPARTMENT SUPERVISOR.

CHEMICAL	DEPARTMENT IN USE
ACETAMIDE	MEDIA, SOLUTIONS
ACETONITRILE	SPECIAL CHEMISTRY
3-AMINO-9-ETHYLCARBAZOLE	SOLUTIONS, VIROLOGY
AURAMINE O	HISTOLOGY, SOLUTIONS, T.B. DEPT.
BIEBRICH SCARLET	HISTOLOGY, SOLUTIONS
CACODYLIC ACID, NA SALT	HISTOLOGY, SOLUTIONS
CAFFEINE	CHEMISTRY, SOLUTIONS
CHLORAMPHENICOL	MEDIA, MICROBIOLOGY, SOLUTIONS
CHLOROFORM	CHEMISTRY, SOLUTIONS, SPECIAL CHEMISTRY
CHROMIUM TRIOXIDE	HISTOLOGY, SOLUTIONS
CYCLOHEXIMIDE	MEDIA, SOLUTIONS
3,3 DIAMINOBENZIDINE.4 HCL	HISTOLOGY, SOLUTIONS
DIMETHYL-1-NAPHTHYLAMINE	MICROBIOLOGY, SOLUTIONS
FAST GREEN FCF	HISTOLOGY, SOLUTIONS
FORMALDEHYDE	HISTOLOGY, OVA & PARASITE DEPT., ~~SEROLOGY~~, SOLUTIONS 11-23-93 NS
HEMATOXILYN	HISTOLOGY, SOLUTIONS
HEXAMETHYLENETETRAMINE	HISTOLOGY, SOLUTIONS
LIGHT GREEN SF YELLOWISH	HISTOLOGY, OVA & PARASITE DEPT., SOLUTIONS
METHYLENE CHLORIDE	SOLUTIONS, SPECIAL CHEMISTRY
NICKEL NITRATE	SOLUTIONS, SPECIAL CHEMISTRY
OIL RED O	HISTOLOGY, SOLUTIONS
PARAROSANILINE.HCL	HISTOLOGY, O&P, SOLUTIONS, T.B. DEPT.
PHENYLENEDIAMINE.2HCL	MICROBIOLOGY, ~~SEROLOGY~~, SOLUTIONS 11-23-93 NS

DISCLAIMER

If unable to locate MSDS for a material, please contact the Solutions department at extension 6840 to obtain MSDS from their Master Files.

For after-hours, contact Security at extension 6562 to gain access to the Solutions department and obtain MSDS from Master Files (green binders above work bench).

SCPMG REGIONAL REFERENCE LABORATORY
MICROBIOLOGY SECTION
DEPARTMENT: VIROLOGY

MATERIAL SAFETY DATA SHEETS
Section 1

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SECTION	TITLES
1	**Chemicals**
1.0	Acetone
1.1	Alcohol Reagent
1.2	Bleach
1.3	2-Chloroacetamide
1.4	Dimethyl Sulfoxide
1.5	Disodium Phosphate
1.6	Electrode Storage Solution
1.7	Ethyl alcohol
1.8	Evan's Blue
1.9	Extran
1.10	Ethyl alcohol (200 proof)
1.11	Fyrite Fluid
1.12	Formaldehyde
1.13	Formalin, 10% Buffered
1.14	Glutaraldehyde
1.15	Glycerol
1.16	Liquid Treatment System
1.17	Methanol
1.18	Nonidet P 40
1.19	O-Phenylenediamine Dihydrochloride
1.20	Paraformaldehyde
1.21	Saponin
1.22	Sodium Azide
1.23	Sodium Bicarbonate
1.24	Sodium Hydroxide
1.25	Sputolysin Reagent
1.26	Stainless Steel Cleaner
1.27	Sulfuric Acid
1.28	Triton X-100
1.29	Virahol
1.30	Vesphene II SE

PCS PIPETTE CALIBRATION SYSTEM
IMMERSION OIL
MOUNTING FLUID
REAGENT ALCOHOL, 75 %
SODIUM HYDROXIDE IN

ETHANOL, 70 %
ACETONE, 50% + METHANOL, 50%
HYDROCHLORIC ACID, IN
SODIUM HYPOCHLORITE SOLN.

MATERIAL SAFETY DATA SHEETS
Section 2

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2	Cells/ Tissue Cultures and Media/Reagents
2.0	A-7 Agar
2.1	A-8 Agar
2.2	Amphotericin B Solution
2.3	Bovine albumin
2.4	Buffer (pH 4)
2.5	Buffer (pH 7)
2.6	Cell Cultures Cell Lines
2.7	Cycloheximide
2.8	ELVIS HSV cells
2.9	ELVIS Replacement media
2.10	Fetal Bovine Serum
2.11	Gentamycin Sulfate Solution
2.12	Glucose (25%)
2.13	Guinea Pig Red blood Cells
2.14	HEPES Buffer Solution
2.15	HCL
2.16	Horse Serum
2.17	L- Glutamine Solution
2.18	MEM 1X Earles Salts
2.19	NaOH
2.20	Penicillin (1000,000 u/ml)
2.21	PMN
2.22	Polymixin B (5000 u/ml)
2.23	Phosphate Buffer Saline Solution (cat# 9236)
2.24	Phosphate Buffer w/o calcium & magnesium salts (cat# 9240)
2.25	RPMI Medium IX HEPES
2.26	2 SP
2.27	SPG
2.28	Transport Medium (M4/M5)
2.29	Trypsin (for MDCK media)
2.30	Trypsin EDTA 1X Solution
2.31	U-9 Complete
2.32	Vancomycin

MATERIAL SAFETY DATA SHEETS
Section 3

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3	Test Kits
3.0	CT/GC kit (Aptima) for DTS
	• Auto Detect 2
	• Buffer for Deactivation Fluid
	• Detection Reagent 1
	• Oil Reagent
	• Amplification Reagent, Lypholized
	• Amplification Reconstitution Solution
	• Wash Solution
	• Enzyme Reagent, Lypholized
	• Enzyme Reconstitution Solution
	• Positive Control, CT
	• Positive Control, NG
	• Probe Reagent, Lypholized
	• Probe Reconstitution Solution
	• Selection Reagent
	• Target Capture Reagent
	• Target Capture Reagent, Component B
	• Transport Media, STD
	• Transport Medium, Urine
3.1	CT ASR
	• Amplification Reconstitution Solution
	• Amplification Reagent, CT, Lyophilized
	• Enzyme Reagent, Lyophilized
	• Enzyme Reconstitution Solution
	• Negative Control, CT
	• Positive Control, CT
	• Probe Reagent, CT, Lyophilized
	• Probe Reconstitution Solution
	• Selection Reagent
	• Target Capture Reagent, CT
	• Target Capture Reagent, Component B
3.2	GC ASR
	• Amplification Reconstitution Solution
	• Amplification Reagent, GC, Lyophilized
	• Enzyme Reagent, Lyophilized
	• Enzyme Reconstitution Solution
	• Negative Control, GC
	• Positive Control, GC
	• Probe Reagent, GC, Lyophilized
	• Probe Reconstitution Solution
	• Selection Reagent

MATERIAL SAFETY DATA SHEETS
Section 3

TABLE OF CONTENTS

	• Target Capture Reagent, GC
	• Target Capture Reagent, Component B
3.3	CT/GC kit (Aptima) for TIGRIS
	• Amplification Reconstitution Solution
	• Amplification Reagent
	• Auto Detect 1
	• Auto Detect 2
	• Bleach Enhancer
	• Deactivation Fluid
	• Enzyme Reagent, Lyophilized
	• Enzyme Reconstitution Solution
	• Oil
	• Probe Reagent, CT, Lyophilized
	• Probe Reconstitution Solution
	• Positive Control, CT
	• Positive Control, GC
	• Selection Reagent
	• System Fluid Preservative
	• Target Capture Reagent, CT
	• Target Capture Reagent, Component B
	• Transport for Swab Specimen
	• Transport for Urine Specimen
	• Wash Solution
3.4	Chlamydia Culture Confirmation (PathoDx)
3.5	CMV, Indirect ImmunoFluorescence Assay (Chemicon)
3.6	Enterovirus (Nucleic Acid Sequence Based Amplification)
	• Basic Kit-Positive Controle RNA Liquid
	• Basic Kit- Accusphere Diluent
	• Wash Buffer
	• Nuclisens Lysis Buffer
	• Nuclisens Cleaning Solution
3.7	Helicobacter pylori Enzyme Immunoassay (Meridian)
3.8	Herpes Culture Confirmation (Wampole)
3.9	Herpes Culture Confirmation (DHI) cat# 03-800
3.10	Herpes Direct FA (Wampole)
3.11	Herpes ELVIS Detection System and Typing Kits

SCPMG REGIONAL REFERENCE LABORATORY
MICROBIOLOGY SECTION
DEPARTMENT: VIROLOGY

MATERIAL SAFETY DATA SHEETS
Section 3

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3.12	HSV Detection by Light Cycler
	• MagnaPure LC Total Nucleic Acid Isolation Kit, Large Volume
	• HSV ½, Recovery Template
	• HSV ½, Template DNA
	• Capillaries
	• Fast Start DNA Master PLUS Hybridization Probes, 96 Reactions
	• HSV ½, Primer/Hybridization Probes
3.13	HPV (Digene) Test Kit
	• HPV (Digene) Denaturation Reagent
	• HPV (Digene) DNA Target 1
	• HPV (Digene) DNA Target 2-6
	• HPV (Digene) Detection Reagent 1
	• HPV (Digene) Detection Reagent 2
	• HPV (Digene) High Risk HPV Calibrator, HPV High Risk QC
	• HPV (Digene) Probe B
	• HPV (Digene) Indicator Dye
	• HPV (Digene) Negative Control
	• HPV (Digene) Probe Diluent
	• HPV (Digene) Sample Conversion Buffer
	• HPV (Digene) Specimen Transport Medium
	• HPV (Digene) Wash Buffer Concentrate
3.14	Influenza A and B, DFA (Dako)
3.15	Measles IFA Kit (Chemicon)
3.16	Mumps IFA Kit (Chemicon)
3.17	Mycobacterium kit (Roche Amplicor)
	• Mycobacterium Amplification Kit
	• Mycobacterium tuberculosis Detection Kit
	• Sputum Specimen Preparation Kit
3.18	Pneumocystis carinii IFA Kit (Bio Rad)
3.19	RSV Membrane EIA (Directigen)
3.20	RSV Membrane EIA (Binax)
3.21	RSV Monoclonal DFA Reagent (Bartels)
3.22	Rotaclone EIA (Meridian)
3.23	Spermac Stain
3.24	Toxin A and B EIA (Meridian)
3.25	Toxoplasma gondii IFA Reagent (Chemicon)
3.26	Varicella zoster IFA Reagent (Chemicon)

SCPMG REGIONAL REFERENCE LABORATORY
MICROBIOLOGY SECTION
DEPARTMENT: VIROLOGY

MATERIAL SAFETY DATA SHEETS
Section 3

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3.27	Viral Respiratory Kit (Bartels)
	• Adenovirus IFA Reagent
	• Anti-Mouse FA Conjugate
	• Influenza A IFA Reagent
	• Influenza B IFA Reagent
	• Parainfluenza 1 IFA Reagent
	• Parainfluenza 2 IFA Reagent
	• Parainfluenza 3 IFA Reagent
	• RSV IFA Reagent

HSV 1 & HSV 2 KIT (PATHFINDER)
TOXIN / ANTITOXIN KIT (TECHLAB)

MATERIAL SAFETY DATA SHEETS
Section 4

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4	**Microbial Cultures**
4.0	ATCC Microbial Cultures
	• Adenovirus
	• Cytomegalovirus
	• CT Serotype D
	• CT Serotype E
	• CT Serotype F
	• CT Serotype I
	• Influenza A
	• Influenza B
	• Herpes Virus
	• Respiratory Syncytial Virus
	• Varicella Zoster
4.1	Mycobacterium tuberculosis
4.2	Mycoplasma hominis
4.3	Ureaplasma urealyticum

KAISER PERMANENTE

Regional Reference Laboratories
11668 Sherman Way, North Hollywood, CA 91605

Environmental Health and Safety
2004 Chemical Inventory: Virology Department

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty
Location: Virology, Main Department						
Aptima Auto Detect Kit		1048, Lot 403072	Gen-Probe	Box		50
Aptima Auto Detect Kit: Auto Detect 1	Contents of Aptima Auto Detect Kit	See 1048, Lot 403072	Gen-Probe	Plastic	245mL	8
Aptima Auto Detect Kit: Auto Detect 2	Contents of Aptima Auto Detect Kit	See 1048, Lot 403072	Gen-Probe	Plastic	245mL	8
Aptima Combo 2 Assay Kit: Amplification Reconstitution Solution	Contents of Aptima Combo 2 Assay Kit	See 1032, Lot 403182	Gen-Probe	Plastic	9.3mL	3
Aptima Combo 2 Assay Kit: Buffer for Deactivation Fluid (800mM Bicarbonate buffered solution)	Contents of Aptima Combo 2 Assay Kit	Lot 402345	Gen-Probe	Plastic	402mL	2
Aptima Combo 2 Assay Kit: Enzyme Reconstitution Solution (HEPES buffer solution)	Contents of Aptima Combo 2 Assay Kit	Lot 403183	Gen-Probe	Plastic	3.3mL	3
Aptima Combo 2 Assay Kit: Oil Reagent silicone oil	Contents of Aptima Combo 2 Assay Kit	Lot 403175	Gen-Probe	Plastic	24.6mL	2
Aptima Combo 2 Assay Kit: Probe Reconstitution Solution (Succinate buffer solution)	Contents of Aptima Combo 2 Assay Kit	Lot 403181	Gen-Probe	Plastic	12.4mL	3
Aptima Combo 2 Assay Kit: Selection Reagent (600mM Borate buffered solution	Contents of Aptima Combo 2 Assay Kit	Lot 403176	Gen-Probe	Plastic	31mL	1
Aptima Combo 2 Assay Kit: Target Capture Reagent B (Non-infectious nucleic acid in a buffered solution TCR-B)	Contents of Aptima Combo 2 Assay Kit	Lot 43184	Gen-Probe	Plastic	0.35mL	1
Aptima Combo 2 Assay Kit: Wash Solution (10mM HEPES buffered solution)	Contents of Aptima Combo 2 Assay Kit	Lot 402343	Gen-Probe	Plastic	402mL	12

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty
Aptima Combo 2 Assay Kit: Wash Solution (10mM HEPES buffered solution)	Contents of Aptima Combo 2 Assay Kit	Lot 402343	Gen-Probe	Plastic	245mL	20
Aptima Controls Kit: Control+ CT/Control-GC (Non-infectious C.Trachomatis nucleic acid in buffered solution	--	1110, Lot 402208	Gen-Probe	Plastic	1.7mL	3
Aptima Controls Kit: Control+ GC/Control-CT (Non-infectious N-Gonorrhoeae nucleic acid in buffered solution	--	1110, Lot 402209	Gen-Probe	Plastic	1.7mL	3
Bacdown Antimicrobial Handsoap	--	04-355-16	Fisher Scientific	Plastic	1L	1
BD BBL GasPak Pouch BENEK liquid	--	260651	Becton, Dickinson & Company			1
Bleach 10%	Bleach		Solutions	Plastic		2
Bleach Enhancer for Cleaning (600mM Bicarbonate buffered solution surfactant, fragrance)	--	Lot 403379	Gen-Probe	Plastic	450mL	1
Cida-Steryl 28 Long-Life Activated Dialdehyde	--	102327E, 1800-1	Huntington Labs	Plastic	1gal	1
Erado-Sol	--	207	Cambridge Diagnostic Products	Plastic	473mL	1
Ethyl alcohol	Ethanol	2436-0502	(Nalgene?)	Plastic	500mL	6
EZ Dispenser Bleach Concentrate	Bleach		Garren Scientific	Plastic	11oz	26
Glass and Plastic Cleaner 100	--	TX152	Texwipe	Plastic	128oz	1
H.pylori/C.difficile buffer	--		by department	Plastic	500mL	1
Hypochlorite T Wash Solution	--		by department	Plastic	500mL	1
Minimum essential medium 1X	MEM	SH3A096.01, ANE18349	Hyclone	Plastic	250mL	200
Reagent Alcohol 75%	--		Solutions	Metal	18L	2
Sheila Shine Polish and Sufrace Preservative	--	3259	Sheila Shine	Metal	1gal	1
Syscheck	--	301078, 305220		Box		3
Syscheck	--	312383		Plastic	3mL	1
Vionex Antimicrobial Liquid Soap	--	25128	Metrex Research, Viro Research International	Plastic	1gal	2
Location: Virology, Cold Storages						
Acetone	--	--	Solutions	Plastic	0.2L	1
Ampliprobe CT/GC	--	I0137	Blackhawk Biosystems	Kit	--	14
Aptima Combo 2 Kit	--	1032	Gen-Probe	Box	--	123
Aptima Combo 2 Kit: STD Panel C	--	DLR0433	Gen-Probe	Box	--	38

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty
Aptima CT Analyte Specific Reagent Kit	--	1132, Lot 105302	Gen-Probe	Box	--	1
Aptima GC Analyte Specific Reagent Kit	--	Lot 105301	Gen-Probe	Box	--	20
Chlamydia Trachomatis Direct Specimen Test	--	K02238	Microtrak	Kit	--	1
Cytomegalovirus IFA Kit	--	3135	Light Diagnostics	Box	--	14
Enzyme Immunoassay for the Detection of H.pylori antigens in Stool Specimens	Premier Platinum HPSA Kit	601348	Meridian Bioscience	Box	--	48
Herpes Simlex Virus Types 1 & 2 Direct Antigen Detection System	HSV 1&2 Kit	30492	BioRad	Kit	--	2
High-Risk HPV DNA Test	HPV Hybrid Capture II	5101-1296	Digene	Box	--	104
HSV1/HSV2 Culture Identification/Typing Test	--	8H219U, L12901	Wampole Microtrak, Trinity Biotech	Kit	--	5
HSV1/HSV2 Direct Specimen Identification/Typing Test	--	8H349U, L05711	Wampole Microtrak, Trinity Biotech	Kit	--	5
Methanol	Methanol		Solutions	Plastic	1L	1
Methanol	Methanol		Solutions	Plastic	0.2L	1
Methanol Optima	Methanol	A454-4, 032315	Fisher Scientific	Glass	4L	1
Methanol-acetone 1:1	Methanol-acetone solution	--	Solutions	Glass	4L	1
Methanol-acetone 1:1	Methanol-acetone solution	--	Solutions	Glass	1L	1
Microtest M5	--	401969, 12515	Remel Apogent	Plastic	3mL	72
Monofluo Pneumocystis Carinli IFA Test Kit	Pneumocystis Reagent	32515	BioRad	Kit	--	12
Mumps IFA Kit	--	3140	Light Diagnostics	Box	--	3
PBS 1X Buffer Solution	--	9236	Irvine Scientific	Plastic	500mL	4
PBS 1X without Ca	--	9240	Irvine Scientific	Plastic	500mL	5
Premier Rotaclone	--	696004	Meridian Bioscience	Box	--	16
Premier Toxins A and B	--	616096	Meridian Bioscience	Box	--	42
Sputolysin	--	--	Solutions	Plastic	1L	3
Location: Virology, PCR Rooms						
Amplicor M.tb Detection Kit	--	E11377	Roche	Box	--	7
Amplicor Monitor Test 10x WB M WP DK	--	E02405	Roche	Plastic	90mL	1
Amplicor Sputum Specimen Preparation Kit	Amplicor Mtb Specimen Preparation Kit	83004, E08309	Roche	Kit	--	10
Amplicor Sputum Specimen Preparation Kit: Lysis Reagent	Contents of Amplicor Sputum Specimen Preparation Kit	See 83004	Roche	Plastic	--	1
Amplicor Sputum Specimen Preparation Kit: Neutralization Reagent	Contents of Amplicor Sputum Specimen Preparation Kit	See 83004	Roche	Plastic	--	1

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty
Amplicor Sputum Specimen Preparation Kit: Wash Solution	Contents of Amplicor Sputum Specimen Preparation Kit	See 83004	Roche	Plastic	--	1
Aptima Assay Fluids Kit	--	1133, 301129, Lot 403480	Gen-Probe	Box	--	48
Aptima Combo 2 Kit	--	See 1032, Lot 404111A, 404112A	Gen-Probe	Box	--	180
Aptima Unisex Swab Specimen Collection Kit for Endocervical and Male Urethral Swab Specimens	--	1041, Lot 403017	Gen-Probe	Plastic	2.9mL	154
Aptima Urine Specimen Collection Kit for Male and Female Urine Specimen	Aptima Urine Collection Kit	1040, Lot 403004	Gen-Probe	Plastic	2mL	104
Isopropanol 70% disinfectant	--	--	Solutions	Plastic	500mL	1
Sodium hypochlorite (bleach)	Bleach	2436-0506	(Nalgene?)	Plastic	500mL	5
Location: Virology, QC Lab						
Benzidine-cyanosine stain	--	--	Solutions	--	0.1L	1
Buffer solution pH 4.00 certified	--	SB101-500, 024826-24	Fisher Scientific	--	500mL	2
Buffer solution pH 7.00 certified	--	SB107-500, 027619-24	Fisher Scientific	--	500mL	1
Dimethyl sulfoxide 99.9% A.C.S. spectrophotometric grade	--	154938	Sigma Aldrich	Glass	500mL	1
Electrode Storage Solution	--	5040-1	Fisher Scientific	Plastic	1L	2
Glycerol anhydrous	--	--	Solutions	Plastic	250mL	1
HCl 1N	--	--	Solutions	Plastic	125mL	1
NaOH 1N	--	--	Solutions	Plastic	125mL	1
PBS 1X Buffer Solution	--	9236	Irvine Scientific	Plastic	500mL	5
PBS 1X without Ca	--	9240	Irvine Scientific	Plastic	500mL	5
PMN Isolation Medium	--	1068.00.0, 10112345	Robbins Scientific, Matrix Technologies	Glass	100mL	50
Potassium chloride solution 4M saturated with silver chloride	--	SP135, 2077-16	Fisher Scientific	--	2oz	2
Satin Stainless Steel Cleaner and Polish	--	U17530	AllStar Unisource	Metal aerosol	15oz	1
Self-sealing 12"x18" sterilization pouch	--	--	Crosstex	Glass	tube	1

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty
Sodium bicarbonate 7.5% solution	--	9330	Irvine Scientific	Plastic	125mL	5
TM Bura	--	--	Meridian Bioscience	--	--	1
Vacuum Grease Silicone	--	335148	Beckman Coulter	--	1oz	1
Location: Virology, Stock Room and Cabinets						
Aptima Assay Fluids Kit: Buffer for Deactivation Fluid	Contents of Aptima Assay Fluids Kit	1133, Lot 307288	Gen-Probe	Plastic	1.4L	7
Aptima Assay Fluids Kit: Oil	Contents of Aptima Assay Fluids Kit	1133, Lot 307287	Gen-Probe	Plastic	260mL	10
Aptima Assay Fluids Kit: System Fluid Preservative (2.5% Sodium hypochlorite solution)	Contents of Aptima Assay Fluids Kit	1133, Lot 306446	Gen-Probe	Plastic	200mL	3
Aptima Assay Fluids Kit: Wash Solution (10mM HEPES Buffered Solution)	Contents of Aptima Assay Fluids Kit	1133, Lot 309330	Gen-Probe	Plastic	2.9L	3
Aptima Auto Detection Reagent Kit: Auto Detect I	Contents of Aptima Auto Detect Kit	See 1048, Lot 207290	Gen-Probe	Plastic	245mL	30
Aptima Auto Detection Reagent Kit: Auto Detect II	Contents of Aptima Auto Detect Kit	See 1048, Lot 207292	Gen-Probe	Plastic	245mL	30
Aptima Buffer for Deactivation Fluid (Sodium bicarbonate buffered solution)	Contents of Aptima Combo 2 Assay Kit	See 1032, Lot 308059	Gen-Probe	Plastic	1.4L	6
Aptima System Fluid Preservative (2.5% sodium hypochlorite solution)	--	Lot 308140	Gen-Probe	Plastic	200mL	6
Aptima Wash Solution (10mM HEPES buffered solution)	--	Lot 308060	Gen-Probe	Plastic	2.9mL	6
Daybright Bleach	Bleach		Kik International	Plastic	1gal	17
Vesphene II SE	--	6461-08	Steris	Plastic	1gal	2
Vionex Healthcare Personal Handwash	--	10-1500	Metrex Research	Plastic	1gal	1

010581

CAN LAKEVIEW
LMO-PEDIATRICS JANET X
SPUTUM FIXATIVE X
X
REAGENT ALCOHOL, 50% X
REAGENT ALCOHOL, WATER

12/09/94 R.T.

3
2
2
4

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: ACETONE
COMMON SYNONYMS: DIMETHYL KETONE; 2-PROPANONE; DIMETHYL KETAL
CHEMICAL FAMILY: KETONES
FORMULA: (CH3)2CO
FORMULA WT.: 58.08
CAS NO.: 67-64-1
NIOSH/RTECS NO.: AL3150000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 5356,A134,9004,9002,9007,9125,9001,5805,9254,9009,5580,9010
9008,9006,9015,9005

010582

CHEMTREC # (800) 424-9300

NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/05/94 ISSUED: 04/02/94
REVISION #08

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	3	SEVERE (FLAMMABLE)
REACTIVITY	-	2	MODERATE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

U.S. PRECAUTIONARY LABELING

DANGER

EXTREMELY FLAMMABLE LIQUID AND VAPOR. VAPOR MAY CAUSE FLASH FIRE. CAUSES

010583

2 - PRODUCT IDENTIFICATION (continued)

IRRITATION. HARMFUL IF SWALLOWED OR INHALED.
KEEP AWAY FROM HEAT, SPARKS, FLAME. AVOID CONTACT WITH EYES, SKIN, CLOTHING. AVOID BREATHING VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, USE ALCOHOL FOAM, DRY CHEMICAL, CARBON DIOXIDE - WATER MAY BE INEFFECTIVE. IN CASE OF SPILL, SOAK UP WITH SAND OR EARTH. FLUSH SPILL AREA WITH WATER.

PRECAUTIONARY LABELING (CONTINUED)

INTERNATIONAL LABELING

HIGHLY FLAMMABLE.
KEEP CONTAINER IN A WELL-VENTILATED PLACE. KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING. DO NOT BREATHE VAPOR. TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
ACETONE	67-64-1	99-100	750 PPM	750 PPM

4 - PHYSICAL DATA

BOILING POINT: 56 C (132 F)
(AT 760 MM HG)

MELTING POINT: -95 C (-139 F)
(AT 760 MM HG)

SPECIFIC GRAVITY: 0.79
(H_2O=1)

VAPOR PRESSURE (MMHG): 184
(20 C)

VAPOR DENSITY (AIR=1): 2.0

EVAPORATION RATE: 14.4
(BUTYL ACETATE = 1)

010584

SOLUBILITY(H20): COMPLETE (100%)

% VOLATILES BY VOLUME: 100
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): 100

PHYSICAL STATE: LIQUID

010585

4 - PHYSICAL DATA (continued)

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID. SWEET ODOR.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): -18 C (-2 F) NFPA 704M RATING: 1-3-0

AUTOIGNITION TEMPERATURE: 464 C (869 F)

FLAMMABLE LIMITS: UPPER - 13.0 % LOWER - 2.2 %

FIRE EXTINQUISHING MEDIA
USE ALCOHOL FOAM, DRY CHEMICAL OR CARBON DIOXIDE. (WATER MAY BE INEFFECTIVE.)

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS
VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SOURCES AND FLASH BACK. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE. THIS MATERIAL MAY PRODUCE A FLOATING FIRE HAZARD.

TOXIC GASES PRODUCED
CARBON MONOXIDE, CARBON DIOXIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

010586

010587

YES.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 1800 MG/M (750 PPM)

SHORT-TERM EXPOSURE LIMIT (STEL): 2400 MG/M (1000 PPM)

PERMISSIBLE EXPOSURE LIMIT (PEL): 2400 MG/M (1000 PPM)

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR ACETONE	9750 MG/KG
ORAL MOUSE LD50 FOR ACETONE	3000 MG/KG
INTRAPERITONEAL MOUSE LD50 FOR ACETONE	1297 MG/KG
SKIN RABBIT LD50 FOR ACETONE	20 G/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF NOSE AND THROAT, HEADACHE, NAUSEA, VOMITING, DIZZINESS, NARCOSIS, RESPIRATORY FAILURE, LOW BLOOD PRESSURE, CENTRAL NERVOUS SYSTEM DEPRESSION, COMA

SKIN CONTACT: IRRITATION, PROLONGED CONTACT MAY CAUSE DERMATITIS

EYE CONTACT: SEVERE IRRITATION, MAY CAUSE TEMPORARY CORNEAL DAMAGE

SKIN ABSORPTION: MAY OCCUR

INGESTION: HEADACHE, NAUSEA, VOMITING, DIZZINESS, GASTROINTESTINAL IRRITATION, CENTRAL NERVOUS SYSTEM DEPRESSION, UNCONSCIOUSNESS

CHRONIC EFFECTS: KIDNEY DAMAGE, LIVER DAMAGE

010588

TARGET ORGANS

RESPIRATORY SYSTEM, LUNGS, EYES, SKIN, CENTRAL NERVOUS SYSTEM

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

CHRONIC RESPIRATORY DISEASE, SKIN DISORDERS, EYE DISORDERS

010589

6 - HEALTH HAZARD DATA (continued)

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, EYE CONTACT, SKIN CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

NOTES TO PHYSICIAN
ANY MATERIAL ASPIRATED DURING VOMITING MAY CAUSE LUNG INJURY. THEREFORE, EMESIS SHOULD NOT BE INDUCED MECHANICALLY OR PHARMACOLOGICALLY. IF IT IS CONSIDERED NECESSARY TO EVACUATE THE SOMACH CONTENTS, THIS SHOULD BE DONE BY MEANS LEAST LIKELY TO CAUSE ASPIRATION (E.G., GASTRIC LAVAGE AFTER ENDOTRACHEAL INTUBATION).

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: YES PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS ACETONE (RQ = 5000 LBS)
SARA 313 TOXIC CHEMICALS: YES CONTAINS ACETONE
GENERIC CLASS: GENERIC CLASS REMOVED FROM CFR: 7/1/91
TSCA INVENTORY: YES

7 - REACTIVITY DATA

010590

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION

INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG BASES, HALOGEN ACIDS AND HALOGEN COMPOUNDS, CAUSTICS, AMINES AND AMMONIA, CHLORINE AND CHLORINE COMPOUNDS, STRONG ACIDS, ESP. SULFURIC, NITRIC, HYDROCHLORIC

010591

7 - REACTIVITY DATA (continued)

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. SHUT OFF IGNITION SOURCES; NO FLARES, SMOKING, OR FLAMES IN AREA. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. TAKE UP WITH SAND OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO CONTAINER FOR LATER DISPOSAL. FLUSH AREA WITH WATER.

J. T. BAKER SOLUSORB(R) SOLVENT ADSORBENT IS RECOMMENDED FOR SPILLS OF THIS PRODUCT.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER: U002 (TOXIC WASTE)

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO 5000 PPM, A CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE IS RECOMMENDED. ABOVE THIS LEVEL, A SELF-CONTAINED BREATHING APPARATUS IS RECOMMENDED.

010592

EYE/SKIN PROTECTION: SAFETY GOGGLES, BUTYL RUBBER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

010593

10 - STORAGE AND HANDLING PRECAUTIONS (continued)

STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL, DRY, WELL-VENTILATED, FLAMMABLE LIQUID STORAGE AREA. ISOLATE FROM INCOMPATIBLE MATERIALS.

SPECIAL PRECAUTIONS

BOND AND GROUND CONTAINERS WHEN TRANSFERRING LIQUID.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: ACETONE
HAZARD CLASS: 3
UN/NA: UN1090 REPORTABLE QUANTITY: 5000 LBS. PACKAGING GROUP: II
LABELS: 3 FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: ACETONE
HAZARD CLASS: 3.1 I.M.O. PAGE: 3102
UN: UN1090 MARINE POLLUTANTS: NO PACKAGING GROUP: II
LABELS: FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: ACETONE
HAZARD CLASS: 3.1
UN: UN1090 PACKAGING GROUP: II
LABELS: FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE

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TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE
COMPANY ASSUMES LEGAL RESPONSIBILITY.=== THE
INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION,
INVESTIGATION, AND VERIFICATION. ANY USE OF THE
INFORMATION MUST BE DETERMINED BY THE USER TO BE IN

ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL
LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS 49CFR

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11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49 CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 29141100008

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

010596

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

MATERIAL SAFETY DATA SHEET

S|P REAGENT ALCOHOL

70%
30% DI H_2O

STEPHENS SCIENTIFIC
107 RIVERDALE ROAD
RIVERDALE, NEW JERSEY 07457
(201) 831-9800 8:00 am to 5:00 pm EST

This information is furnished without warranty, representation, inducement of license of any kind, except that it is accurate to the best of Stephens Scientific's knowledge, or obtained from sources believed by Stephens Scientific to be accurate, and Stephens Scientific does not assume any legal responsibility for use or reliance upon same. Customers are encouraged to conduct their own tests. Before using any product, read its label. Revision 9/6/94

1. SUBSTANCE IDENTIFICATION

SUBSTANCE: **S|P REAGENT ALCOHOL** CATALOG NUMBER: C4305

TRADE NAMES/SYNONYMS: Denatured Alcohol; Reagent Grade Alcohol, Reagent Alcohol, Denatured SDA-3A Alcohol, Alcohol Blend 100%

CHEMICAL FAMILY: Hydroxyl, Aliphatic

2. COMPOSITION AND INGREDIENTS INFORMATION

COMPONENT: Ethyl Alcohol	CAS 64-17-5	Percent: 89.80% - 90.70%
COMPONENT: Methyl Alcohol	CAS 67-56-1	Percent: 4.70% - 4.80%
COMPONENT: Isopropyl Alcohol	CAS 67-63-0	Percent: 4.90% - 5.10%
COMPONENT: Water	CAS 7732-18-5	Percent: 0.10% max
COMPONENT; Non-volatile Matter		Percent: 0.001% max

OTHER CONTAMINANTS: Less than 0.5% miscellaneous organic contaminants not tested for.

3. HAZARDS IDENTIFICATION

CERCLA RATINGS (SCALE 0-3):	Health=1	Fire=3	Reactivity=0	Persistence=0
NFPA RATINGS (SCALE 0-4):	Health=1	Fire=3	Reactivity=0	

DANGER, FLAMMABLE, DANGER POISON, WARNING IRRITANT
Alcohol, Denatured is a colorless liquid with a characteristic sweetish alcohol odor. It is a flammable liquid with an irritating vapor. It is poisonous by ingestion due to denaturant. Vapor is harmful and may be fatal or cause blindness if swallowed. It cannot be made non-poisonous. Affects central nervous system. Causes irritation to eyes, skin and respiratory tract. Alcohol, Denatured is a probable human carcinogen (IARC).

EXPOSURE LIMITS:

Ethyl Alcohol (Ethanol):

1000 ppm (1880 mg/m^3) OSHA TWA
1000 ppm (1880 mg/m^3) ACGIH TWA
1000 ppm (1880 mg/m^3) NIOSH RECOMMENDED TWA
1000 ppm (1880 mg/m^3) DFG MAK TWA;
2000 ppm (3760 mg/m^3) DFG MAK 60 MINUTE PEAK, MOMENTARY VALUE, 3 TIMES/SHIFT

010599

ISOPROPYL ALCOHOL: IRRITANT/NARCOTIC. 12,000 ppm immediately dangerous to life or health.

ACUTE EXPOSURE- Human subjects exposed to 400 ppm for 3-5 minutes had mild irritation of the nose and throat. At 800 ppm the irritation was not severe but uncomfortable. Higher concentrations may cause effects as detailed in acute ingestion. The length of time required to produce deep narcosis in animals was inversely proportional to the concentration: the onset of deep narcosis ranged from 460 minutes at 3250 ppm to 100 minutes at 24,500 ppm.

CHRONIC EXPOSURE- Mice subjected to 10,900 ppm isopropyl alcohol in air for about 4 hours/day until they had accumulated 123 hours of exposure were narcotized but survived. Reversible fatty changes were observed in the liver. Male mice exposed to either 1000 or 5000 ppm of isopropyl alcohol vapor for 6 hours a day for 9 exposure exhibited hyaline droplet nephropathy. Reproductive effects have been reported in animals. There has been an increased incidence of cancer of the paranasal sinuses, and possibly of the larynx, in the manufacture of isopropyl alcohol by the strong acid process. Involving the formation of isopropyl oils. It is not clear which substances are responsible.

****FIRST AID- Remove from exposure area to fresh air immediately. If breathing has stopped, give artificial respiration. Maintain airway and blood pressure and administer oxygen if available. Keep affected person warm and at rest. Treat symptomatically and supportively. Administration of oxygen should be performed by qualified personnel. Get medial attention immediately.**

SKIN CONTACT: ETHYL ALCOHOL (ETHANOL): IRRITANT.

ACUTE EXPOSURE- Direct contact may cause mild redness and burning. Sensitization has occasionally been reported to occur in some individuals resulting in allergic contact dermatitis in the form of eczematous eruptions or, rarely, erythematous flush or contact urticaria at the exposed site. Animal studies indicate that, depending on concentration and duration of exposure. Varying degrees of irritation may occur ranging form mild to severe. Skin absorption may also occur.

CHRONIC EXPOSURE- Repeated or prolonged contact with the liquid can cause defatting of the skin, producing a dry, fissured dermatitis, or other symptoms as in acute exposure. A 21-day modified draize open test study resulted in no irritation in men, whereas an occlusive test resulted in erythema and induration toward the end of the exposure period.

METHYL ALCOHOL (METHANOL): IRRITANT/NARCOTIC/NEUROTOXIN.

ACUTE EXPOSURE- Contact with liquid may cause irritation. Skin absorption may occur and cause metabolic acidosis and effects on the eyes and central nervous system as detailed in acute ingestion.

CHRONIC EXPOSURE- Repeated or prolonged contact with the liquid may cause defatting of the skin resulting in erythema, scaling, and eczematoid dermatitis. Chronic absorption may result in metabolic acidosis and effects as detailed in acute ingestion.

ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL): NARCOTIC.

ACUTE EXPOSURE- Contact with the skin may cause slight irritation. Contact dermatitis has been reported in a few sensitive individuals. Substance may be dermally absorbed resulting in systemic toxicity as detailed in acute ingestion. Toxic effects may become more marked in absorption and inhalation occur concurrently.

CHRONIC EXPOSURE- Repeated or prolonged exposure may cause dermatitis due to the defatting action on the skin. Repeated and prolonged exposure to the skin of rabbits caused slight erythema, drying, and superficial desquamation.

****FIRST AID- Remove contaminated clothing and shoes immediately, wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.**

EYE CONTACT: ETHYL ALCOHOL (ETHANOL): IRRITANT.

ACUTE EXPOSURE- Vapor concentrations of 1,000-10,000 ppm may cause temporary eye irritation, with 15,000 ppm causing continuous tearing. Direct contact with the liquid may cause immediate burning and stinging, with reflex closure of the lids, tearing, temporary injury of the corneal epithelium, and hyperemia of the conjunctiva. Healing is usually spontaneous and complete. Depending on the concentration, contact with rabbit eyes causes a response ranging from mild irritation to severe injury. Irrigation of rabbit eyes with a 10% solution for several minutes caused no serious disturbances.

CHRONIC EXPOSURE- Repeated ingestion may cause visual impairment and blindness and other systemic effects as detailed in acute ingestion. Reproductive effects have been reported in animals.

ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL): NARCOTIC.

ACUTE EXPOSURE- Ingestion may cause abdominal pain, hematemesis, nausea, vomiting, and hemorrhage, central nervous system depression may occur with headache, dizziness, flushing, incoordination, stupor, confusion, hypotension, areflexia, and refractory narcosis. Oliguria followed by diuresis and coma may also occur. Other symptoms may include hypoglycemia, tenderness and edema of muscles, and arrhythmias. Vomiting with aspiration may cause aspiration pneumonia. Depressed respiration and death due to respiratory paralysis may occur in a few hours after exposure. Severe and prolonged shock may lead to serious or fatal renal damage after several days. Pathologic findings have included extensive hemorrhagic tracheobronchitis, bronchopneumonia and hemorrhagic pulmonary edema.

CHRONIC EXPOSURE- No adverse effects resulted in humans following daily ingestion of 2.6 and 6.4 mg/Kg for 6 weeks. Rats that ingested 0.5 to 10.0% isopropyl alcohol in drinking water for 27 weeks showed decreased body weight, prolonged oral administration in rabbits produced anesthesia and death. Reproductive effects have been reported in animals.

****FIRST AID- Remove ethyl alcohol by gastric lavage with tap water or emesis (Dreisbach, Handbook of Poisoning, 11th ed.) or by gastric lavage with warm water or 3-5% sodium bicarbonate solution unless two hours or more have passed since ingestion (Gosselin, Clinical Toxicology of Commercial Products). Syrup of ipecac may be given promptly following ingestion.**

****ANTIDOTE:****

The following antidote has been recommended. However, the decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by qualified medical personnel.

ETHANOL POISONING:

Naloxone, 0.01 mg/Kg, intravenously, has an arousal effect in acute alcoholic coma (Dreisbach, Handbook of Poisoning, 11th ed.). Antidote should be administered by qualified medical personnel.

5. FIRE FIGHTING PROCEDURES

FIRE AND EXPLOSION HAZARD:
DANGEROUS FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.
VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL A CONSIDERABLE DISTANCE TO A SOURCE OF IGNITION AND FLASH BACK.
VAPOR-AIR MIXTURES ARE EXPLOSIVE ABOVE FLASH POINT.

FLASH POINT: 57°F (14°C) (CC)
LOWER EXPLOSIVE LIMIT: 4.3%
FLAMMABILITY CLASS (OSHA): IB
ELECTRICAL HAZARD: CLASS I GROUP D

UPPER EXPLOSIVE LIMIT: 19%
AUTOIGNITION TEMP.: 689°F
BURN RATE: 3.9mm/min

FIRE FIGHTING MEDIA: DRY CHEMICAL, CARBON DIOXIDE, WATER SPRAY OR ALCOHOL-RESISTANT FOAM (1993 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).
FOR LARGER FIRES, USE WATER SPRAY, FOG OR ALCOHOL-RESISTANT FOAM (1993 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.5).

FIRE RESPONSE PROCEDURES: Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire (1993 Emergency Response Guidebook, DOT P 5800.5), Guide page 26).
Extinguish only if flow can be stopped. Use flooding amounts of water as fog: solid streams may be ineffective. Cool containers with flooding amounts of water from as far a distance as possible. Avoid breathing vapors; keep upwind. Fire fighters should wear full protective clothing and NIOSH approved self contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Water spray can be used to extinguish fires and cool fire-exposed containers. Water may be used to flush spills away from exposures and to dilute spills to non-flammable mixtures.

Any chemical cartridge respirator with organic vapor cartridge(s) and a full face piece.
Any gas mask with organic vapor canister (chin style or front- or back- mounted canister), with a full face piece.
Any type 'C' supplied air respirator full face piece operated in pressure-demand or other positive-pressure mode or with a full face piece, helmet or hood operated in a continuous-flow mode.
Any self-contained breathing apparatus with a full face piece operated in pressure-demand or other positive-pressure mode.

FOR FIRE FIGHTING AND OTHER IMMEDIATELY DANGEROUS TO LIFE OR HEALTH CONDITIONS:
Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive- pressure mode. Any supplied-air respirator that has a full face piece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

CLOTHING:

Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

GLOVES:

Employee must wear appropriate protective gloves to prevent contact with this substance.

EYE PROTECTION:

Employee must wear splash-proof or dust-resistant goggles to prevent eye contact with this substance.

EMERGENCY EYE WASH:

Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain within the immediate work area for emergency use.

9. PHYSICAL DATA

DESCRIPTION: Clear, colorless liquid
MELTING POINT: -172°F (-114°C)
VAPOR PRESSURE: 40 mm Hg @ 20°C
ODOR THRESHOLD: 5-10 ppm
SOLVENT SOLUBILITY: Benzene, Ether, Acetone, Chloroform, Water
DENSITY (25°C) = 0.782 g/mL
DENSITY (20°C) = 0.7893g/mL
FLASH POINT = 8°C = 46°F

BOILING POINT: 172°F (78°C)
SPECIFIC GRAVITY: 0.8
SOLUBILITY IN WATER: soluble
VAPOR DENSITY: 1.6
CRITICAL TEMP. 243.1°C
MOLECULAR WEIGHT = 46.07

10. STABILITY AND REACTIVITY INFORMATION

REACTIVITY: Stable under normal temperatures and pressures.

INCOMPATIBILITIES: ETHYL ALCOHOL (ETHANOL):

ACETIC ANHYDRIDE AND SODIUM HYDROGEN SULFATE: Possible explosion.
ACETYL CHLORIDE: Violent reaction.
ACETYL BROMIDE: Violent reaction.
ALKALI METALS: Liberates flammable hydrogen gas.
ALUMINUM HYDROXIDE AND SILVER (I) OXIDE: Formation of explosive silver nitride.
BARIUM PERCHLORATE: Formation of explosive compound.
BROMINE PENTAFLUORIDE: Ignition and explosions are possible.
CALCIUM HYPOCHLORITE: Possible explosion.
CHLORINE TRIOXIDE: Violent reaction.
CHLORYL PERCHLORATE: Possible ignition.
CHRONIC ANHYDRIDE: Ignition.
CHROMIUM TRIOXIDE: Possible ignition.
CHROMYL CHLORIDE: Ignition.

DISTRIBUTED BY:
UNISOURCE WORLDWIDE, INC./
DIVISION OF GEORGIA PACIFIC CORP.
133 PEACHTREE ST. NE
ATLANTA, GA 30303

PRODUCT NAME: DAY BRIGHT BLEACH
UNISOURCE ITEM #:
DATE ISSUED: 03/20/2002
SUPERSEDES:

KIK INTERNATIONAL
03/20/2002

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME/TRADE NAME: DAY BRIGHT BLEACH

MANUFACTURER: KIK INTERNATIONAL
33 MACINTOSH BLVD.
CONCORD, ONT.
TEL: 905-660-0444

SECTION 2 HAZARDOUS INGREDIENTS

NAME	%	CAS#	LD50/LC50
SODIUM HYPOCHLORITE	5-6	007681-52-9	N AV./N AV

SECTION 3 PHYSICAL DATA

STATE:	LIQUID	PH:	12.75
APPEARANCE:	CLEAR COLORLESS	% VOLATILE:	93% APPROX.
ODOUR:	CHLORINE/	BOILING POINT:	100 DEG C
SPECIFIC GRAVITY:	1.075	VAPOUR PRESSURE:	N AV
SOLUBILITY:	100%		

SECTION 4 FIRE & EXPLOSION

FLAMMABLE: YES NO X

MEANS OF EXTINCTION: WATER, CARBON DIOXIDE, DRY CHEMICAL OR FOAM

SPECIAL PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS.

FLASH POINT: & METHOD: NOT APPLICABLE

HAZARDOUS COMBUSTION PRODUCTS: CHLORINE GAS.

PRODUCT NAME: DAY BRIGHT BLEACH
UNISOURCE ITEM #:
DATE ISSUED: 03/20/2002
SUPERSEDES:

SECTION 5 REACTIVITY DATA

CHEMICAL STABILITY: YES X NO

CONDITIONS: TEMPERATURES ABOVE 40 DEG C, SUNLIGHT AND METALS

INCOMPATIBILITY: YES X NO

WHAT SUBSTANCES?: ACIDS, AMMONIA, UREA, METALS & OXIDIZERS.

REACTIVITY/CONDITIONS: NOT APPLICABLE

HAZARDOUS DECOMPOSITION PRODUCTS: CHLORINE GAS RELEASED BY CONTACT WITH ACIDS. CONTACT WITH AMMONIA OR UREA PRODUCES NITROGEN GAS AND CHLORAMINES. OXYGEN IS RELEASED ON CONTACT WITH METALS.

SECTION 6 TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY

SKIN CONTACT	X	SKIN ABSORPTION		EYE CONTACT	X
INHALATION ACUTE:	X	INHALATION CHRONIC		INGESTION	X

EFFECTS OF ACUTE EXPOSURE: INHALATION OF VAPOURS WILL IRRITATE BREATHING PASSAGES AND MAY CAUSE BREATHING DIFFICULTY. CORROSIVE WILL CAUSE SEVERE IRRITATION TO EYES AND SKIN. MAY CAUSE PERMANENT DAMAGE IF NOT TREATED PROPERLY. INGESTION WILL CAUSE BURNING SENSATION IN MOUTH, THROAT AND STOMACK.

EFFECTS OF CHRONIC EXPOSURE: NONE KNOWN.

CARCINOGENICITY REPRODUCTIVE EFFECTS:
TERATOGENICITY MUTAGENICITY NO KNOWN EFFECTS

SECTION 7 PREVENTATIVE MEASURES

PROTECTIVE EQUIPMENT

GLOVES:	NOT NORMALLY REQUIRED	EYES:	SAFETY GLASSES
RESPIRATORY:	NOT NORMALLY REQUIRED	FOOTWEAR:	NOT APPLICABLE

ITEM#: 40A4421 40A5428 40B8686 40F1233

DATE: 01/13/04

M2005120

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: DAY BRIGHT BLEACH
UNISOURCE ITEM #:

DATE ISSUED: 03/20/2002
SUPERSEDES:

SECTION 8 FIRST AID MEASURES

SKIN: WASH WITH SOAP AND WATER

EYES: FLUSH EYES WITH COOL RUNNING WATER HOLDING EYE LIDS APART TO ENSURE THOROUGH RINSING FOR 15 MINUTES. REMOVE CONTACT LENSES. SEE A DOCTOR IMMEDIATELY.

INHALATION: MOVE TO FRESH AIR AND RESTORE BREATHING, IF REQUIRED.

INGESTION: DO NOT INDUCE VOMITING! DRINK LARGE AMOUNTS OF WATER OR MILK. DO NOT GIVE ANYTHING BY MOUTH TO A CONVULSING OR UNCONSCIOUS PERSON. SEE A DOCTOR IMMEDIATELY.

GENERAL ADVICE: IF IRRITATION PERSISTS SEE A DOCTOR IMMEDIATELY.

SECTION 9 PREPARATION INFORMATION

HMIS RATING: HEALTH HAZARD 1
FIRE HAZARD 0
REACTIVITY 0

DOT: "ORM-D CONSUMER COMMODITY"
PREPARED BY: TOM CORROTHERS
TELEPHONE NUMBER: 905-660-0444

DATE: MARCH 20, 2002

1 - Site Specific Information

STORE AT ROOM TEMPERATURE KEEP AWAY FROM THE SUN AND METALS

2 - Section I - General Information

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: BLEACH, 10% OR SODIUM HYPOCHLORITE, 10%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
SODIUM HYPOCHLORITE	10.0	7681-52-9	KIK INTERNATIONAL	40A4421
DI-WATER	90.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X			1	1	0	0

SPECIAL HAZARD RATING: IRRITANT, DECOMPOSITION PRODUCTS-HYDROGEN CHLORIDE GAS CHLORINE, SODIUM/SODIUM OXIDE

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3-6 MONTHS

attn: Varujan

.STRIBUTED BY:
ıisource Worldwide
:00 Governors Lake Parkway
ɔrcross, GA 30071

PRODUCT NAME: HILEX BLEACH
PRODUCT NUMBER:
DATE ISSUED: 06/07/2004
SUPERSEDES: 02/09/2004

:K INTERNATIONAL

:CTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

:ODUCT NAME/TRADE NAME: HILEX BLEACH

.NUFACTURER: KIK INTERNATIONAL
2921 CORDER STREET
HOUSTON, TEXAS 77054

)NTACT NUMBER - TEL: 713 747-8710
. HOUR EMERGENCY CONTACT - TEL: 1 800 424-9300

:EPARED BY: KIK INTERNATIONAL LABORATORY

:PLACES DATE: 02/09/2004
.TE LAST REVISED: 06/07/2004

:CTION 2. HAZARDOUS INGREDIENTS

.ME	%	CAS#	LD50/LC50
)DIUM HYPOCHLORITE	5.25-5.50	007681-52-9	N AV./N AV.

:CTION 3. PHYSICAL DATA

:ATE: LIQUID
'PEARANCE: CLEAR COLORLESS
)OR: CHLORINE
'ECIFIC GRAVITY: 1.080 MINIMUM
)LUBILITY: 100%

PH: 12.60 MAXIMUM
% VOLATILE: 93% APPROX.
BOILING POINT: 100 C
VAPOR PRESSURE: N AV.

:CTION 4. FIRE & EXPLOSION

.AMMABLE: NO

:ANS OF EXTINCTION: WATER, CARBON DIOXIDE, DRY CHEMICAL OR FOAM.

'ECIAL PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING
'PARATUS.

.ASH POINT & METHOD: NOT APPLICABLE

.ZARDOUS COMBUSTION PRODUCTS: CHLORINE GAS.

PRODUCT NAME: HILEX BLEACH
DATE ISSUED: 06/07/2004
SUPERSEDES: 02/09/2004

SECTION 5. REACTIVITY DATA

CHEMICAL STABILITY: YES

CONDITIONS: TEMPERATURE ABOVE 40 C, SUNLIGHT AND METALS.

INCOMPATIBILITY: YES

WHAT SUBSTANCES: ACIDS, AMMONIA, UREA, METALS & OXIDIZERS.

REACTIVITY / CONDITIONS: NOT APPLICABLE

HAZARDOUS DECOMPOSITION PRODUCTS: CHLORINE GAS RELEASED BY CONTACT WITH ACIDS. CONTACT WITH AMMONIA OR UREA PRODUCES NITROGEN GAS AND CHLORAMINES. OXYGEN IS RELEASED ON CONTACT WITH METALS.

SECTION 6 TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY: SKIN CONTACT, EYE CONTACT, INHALATION ACUTE, INGESTION.

EFFECTS OF ACUTE EXPOSURE: INHALATION OF VAPORS WILL IRRITATE BREATHING PASSAGES AND MAY CAUSE BREATHING DIFFICULTY. CORROSIVE WILL CAUSE SEVERE IRRITATION TO EYES AND SKIN. MAY CAUSE PERMANENT DAMAGE IF NOT TREATED PROPERLY. INGESTION WILL CAUSE BURNING SENSATION IN MOUTH, THROAT AND STOMACH.

EFFECTS OF CHRONIC EXPOSURE: NONE KNOWN.

CARCINOGENICITY REPRODUCTIVE EFFECTS - TERATOGENICITY, MUTAGENICITY: NO KNOWN EFFECTS.

SECTION 7. PREVENTATIVE MEASURES

PROTECTIVE EQUIPMENT - GLOVES: NOT NORMALLY REQUIRED
RESPIRATORY: NOT NORMALLY REQUIRED
EYES: SAFETY GLASSES
FOOTWEAR: NOT APPLICABLE

016606

:ODUCT NAME: HILEX BLEACH

DATE ISSUED: 06/07/2004
SUPERSEDES: 02/09/2004

:CTION 8. FIRST AID MEASURES

:IN: WASH WITH SOAP AND WATER.

:ES: FLUSH EYES WITH COOL RUNNING WATER HOLDING EYELIDS APART TO ENSURE :OROUGH RINSING FOR 15 MINUTES. REMOVE CONTACT LENSES. SEE A DOCTOR :MMEDIATELY.

:HALATION: MOVE TO FRESH AIR AND RESTORE BREATHING, IF REQUIRED.

:GESTION: DO NOT INDUCE VOMITING! DRINK LARGE AMOUNTS OF WATER OR MILK. DO :OT GIVE ANYTHING BY MOUTH TO A CONVULSING OR UNCONSCIOUS PERSON. SEE A :OCTOR IMMEDIATELY.

:NERAL ADVICE: IF IRRITATION PERSISTS SEE A DOCTOR IMMEDIATELY.

:CTION 9. PREPARATION INFORMATION

:IS RATING: HEALTH HAZARD 1
FIRE HAZARD 0
REACTIVITY 2

:T: NOT REGULATED

: THE HANDLING AND USE OF PRODUCTS UNDER USER'S CONDITIONS ARE BEYOND OUR :NTROL, NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THIS PRODUCT. :E INFORMATION CONTAINED HEREIN IS OFFERED ONLY AS A GUIDE TO THE HANDLING : THIS SPECIFIC MATERIAL AND IS NOT INTENDED TO BE ALL-INCLUSIVE IN THE :ANNER AND CONDITIONS OF USE AND HANDLING. THE USER ASSUMES ALL RISKS OF USE : HANDLING, WHETHER OR NOT IN ACCORDANCE WITH ANY DIRECTIONS OR SUGGESTIONS : THE MANUFACTURER. MANUFACTURER SHALL NOT BE LIABLE TO PURCHASER OR ANY :HER PERSON FOR LOSS OR DAMAGES DIRECTLY OR INDIRECTLY ARISING FROM THE USE : OUR PRODUCT.

010607

MATERIAL SAFETY DATA SHEET

E.I. DuPont de Nemours & Co., Inc.
DuPont - NEN Research Products
549 Albany Street
Boston MA 02118

Product and Safety Information: (617) 482-9595
Medical Emergency : (800) 441-3637
Emergency Transportation : Chemtrec: (800) 424-9300
If in D.C.: (202) 483-7616

MATERIAL IDENTIFICATION

2-CHLOROACETAMIDE

MSDS NUMBER :MSDS 425, GLMPF090

Revision Date : 03-Sep-92

MANUFACTURER/DISTRIBUTOR
Aldrich Chemical Co.
P.O. Box 355
Milwaukee, Wisconsin 53201

PHONE NUMBERS
PRODUCT INFORMATION : 800-231-8327
TRANSPORT EMERGENCY : CHEMTREC 800-424-9300
MEDICAL EMERGENCY : 800-231-8327

CHEMICAL FAMILY : Amide

TRADE NAMES / SYNONYMS
RTECS AB5075000
CHLORACETAMIDE
CHLOROACETAMIDE
ALPHA-CHLOROACETAMIDE
2-CHLOROETHANAMIDE
MERGAL AF
MICROCIDE
USAF DO-29
ACETAMIDE, 2-CHLORO-
ALDRICH #10802-2
AMAPS 705517.000

CAS NAME : 2-Chloro-acetamide
CAS NUMBER : 79-07-2
FORMULA : C2-H4-Cl-N-O
MOLECULAR WEIGHT : 93.51
TSCA INVENTORY STATUS : Reported/Included

COMPONENTS

Material	CAS Number	%
2-Chloroacetamide	79-07-2	98

PHYSICAL DATA

010608

Boiling Point	: 225 deg C decomposes
Vapor Pressure	: .05 mm Hg at 20 deg C
Vapor Density	: N/Ap
Melting Point	: 116 to 118 deg C
% Volatiles	: N/Av
Evaporation Rate	: N/Av
pH	: N/Av
Odor	: Characteristic
Form	: Crystals
Color	: Colorless to pale yellow
Specific Gravity	: N/Av

Solubility in H20: Sol in 10 parts of water.
Very slightly soluble in ether.

HAZARDOUS REACTIVITY

Instability	: Stable.
Incompatibility	: Incompatible with strong oxidizing agents, strong acids, strong bases, strong reducing agents.
Decomposition	: Decomposes with heat. Hazardous gases/vapors produced are toxic fumes of CO, CO2, nitrogen oxides, hydrogen chloride gas.
Polymerization	: Polymerization will not occur.

FIRE AND EXPLOSION DATA

No information available.

FIRE AND EXPLOSION HAZARDS
Emits toxic fumes under fire conditions.

EXTINGUISHING MEDIA
Water Spray. Foam. Dry Powder (Sand or Met-L-X). Dry Chemical. CO2.

SPECIAL FIRE FIGHTING INSTRUCTIONS
Evacuate personnel to a safe area. Keep personnel removed & upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment.

HEALTH HAZARD INFORMATION

This material is HIGHLY TOXIC, SEVERE IRRITANT, SENSITIZER.

Inhalation: May be fatal if inhaled. Highly toxic by inhalation. High concentrations are extremely destructive to tissues of the mucous membranes and

upper respiratory tract. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Skin: May be fatal if absorbed through the skin. Absorbed through skin; highly toxic; major injury injury may result in spite of prompt treatment. Extremely destructive to skin.

Eye: Severe Irritant to eye tissue. Major injury in spite of prompt medical treatment.

Ingestion: Orl-rat LD50:70 mg/kg; orl-mus LD50:155 mg/kg; ipr-mus LD50:100 mg/kg; ivn-mus LD50:180 mg/kg; orl-dog LD50:31 mg/kg; orl-rbt LD50:122 mg/kg. Highly toxic. May be fatal or harmful if swallowed. Major injury may result in spite of prompt treatment.

Medical Conditions Aggravated by Exposure: No information found.

Target Organs: Mucous membranes, upper respiratory tract, skin, eyes, G.I. tract.

Effects of Repeated Exposure: May cause skin allergy

Chronic Effects: In EPA Genetic Toxicology Program 1988. EPA TSCA Chemical Inventory 1990.

Vendor (Aldrich) states material is Highly Toxic, Severe Irritant, Possible mutagen.

CARCINOGENICITY

None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS

2-CHLOROACETAMIDE

TLV	**(ACGIH)**	: None Established
PEL	**(OSHA)**	: Particulates Not Otherwise Regulated 15 mg/m3 - 8 Hr TWA - Total Dust 5 mg/m3 - 8 Hr TWA - Respirable Dust

SAFETY PRECAUTIONS

Do not breathe vapor or mist. Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

FIRST AID

INHALATION

If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

NOTES TO PHYSICIAN

Activated charcoal slurry may be administered.
To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400mL water and mix thoroughly.
Administer 5mL/kg, or 350mL for an average adult.

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Use only with adequate ventilation. Keep container in a cool place. Keep container tightly closed. Avoid dust generation. Do not mix with incompatibles as listed above. Do not consume food, drink or tobacco in the areas where they may become contaminated with this material.

Keep container in a dry place.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face : Safety Glasses.
Protective Gloves: Rubber

DISPOSAL INFORMATION

AQUATIC TOXICITY

No information found.

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Dike spill. Prevent liquid from entering sewers, waterways or low areas.

WASTE DISPOSAL

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. Incinerate material in accordance with Federal, State/Provincial, and Local requirements.

STORAGE CONDITIONS

Store in well ventilated area. Store in cool place. Keep container tightly closed.

Store in dry place.

ADDITIONAL INFORMATION AND REFERENCES

REFERENCES:

1. Aldrich Chemical Co. MSDS dated 92/07/22.
2. RTECS, microfiche version, 1/92.
3. The Merck Index, M. Windholz, ed., 11th Ed., 1989.
4. The Aldrich Catalog, 1984-85.
5. Handbook of Lab. Safety, CRC Press, 1985.
6. The Condensed Chemical Dictionary, Hawley, 1981.
7. Fluka Catalog 14, 1984/85.

Other Information:
This MSDS was prepared by: Mila Folgar
Date: 86/05/12

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : Site MSDS Administrator
Glasgow Research Laboratory
Glasgow Business Community
Glasgow, DE
302-451-9894

SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 10/01/2003
Date Updated: 09/02/2002
Version 1.70

Section 1 - Product and Company Information

Product Name	DIMETHYL SULFOXIDE ACS REAGENT
Product Number	D8779
Brand	Sigma Chemical
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS, MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
DIMETHYL SULFOXIDE	67-68-5	No

Formula C2H6OS

Synonyms A 10846, Deltan, Demeso, Demasorb, Demavet, Demsodrox, Dermasorb, Dimethyl sulfoxide, Dimethyl sulphoxide, Dimexide, Dipirartril-tropico, DMS-70, DMS-90. DMSO, Dolicur, Domoso, Dromisol, Durasorb, Gamasol 90, Hyadur, Infiltrina, M 176, Methane, sulfinylbis-. Methylsulfinylmethane, NSC-763, Rimso-50, Somipront, SQ 9453. Sulfinylbis(methane), Syntexan. Topsym

Section 3 - Hazards Identification

Emergency Overview
Combustible. Readily absorbed through skin. Target organ(s): Eyes. Skin.

HMIS Rating
Health: 0* Flammability: 2 Reactivity: 1

NFPA Rating
Health: 0 Flammability: 2 Reactivity: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Flash Point:	188.6 °F	87 °C
Explosion Limits:	**Lower:** 3.5 %	**Upper:** 42 %
Autoignition Temp:	301 °C	

Extinguishing Media
Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
Evacuate area.

Procedure(s) of Personal Precaution(s)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

Environmental Precaution(s)
Avoid contaminating sewers and waterways with this material.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe vapor. Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Keep away from heat and open flame. Store in a cool dry place. Store under inert gas.

Special Requirements
Hygroscopic. Store under inert gas.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment
Respiratory
Government approved respirator.
Hand
Compatible chemical-resistant gloves.

Eye
Chemical safety goggles.
Skin-Specific
Chemical resistant apron.

General Hygiene Measures
Wash contaminated clothing before reuse. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance

Physical State	Color
Clear liquid	Colorless

Molecular Weight: 78.13 AMU

pH	N/A		
BP/BP Range	189 °C		
MP/MP Range	18.4 °C		
Freezing Point	N/A		
Vapor Pressure	0.42 mmHg	20 °C	
Vapor Density	2.7 g/l		
Saturated Vapor Conc.	N/A		
SG/Density	1.1 g/cm3		
Bulk Density	N/A		
Odor Threshold	N/A		
Volatile%	N/A		
VOC Content	N/A		
Water Content	< 0.3 %		
Solvent Content	N/A		
Evaporation Rate	N/A		
Viscosity	N/A		
Partition Coefficient	Log Kow: -2.03		
Decomposition Temp.	> 190 °C		
Flash Point °F	188.6 °F		Method: closed cup
Flash Point °C	87 °C		Method: closed cup
Explosion Limits	Lower: 3.5 % 2.6 %		
	Upper: 42 % 28.5 %	63 °C	
Flammability	N/A		
Autoignition Temp	301 °C		
Refractive Index	1.479		

Solubility
Solubility in Water: Soluble.
Other Solvents: ALCOHOLS, ETHYL ETHERS.

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.
Conditions to Avoid
Protect from moisture.
Materials to Avoid
Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents. Strong reducing agents.

Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide, Sulfur oxides.

Hazardous Exothermic Reactions

Hazardous Exothermic Reactions

Methyl sulfoxide (DMSO) undergoes a violent exothermic reaction on mixing with copper wool and trichloroacetic acid. On mixing with potassium permanganate it will flash instantaneously. It reacts violently with: acid halides, cyanuric chloride, silicon tetrachloride, phosphorus trichloride and trioxide, thionyl chloride, magnesium perchlorate, silver fluoride, methyl bromide, iodine pentafluoride, nitrogen periodate, diborane, sodium hydride, and perchloric and periodic acids. When heated above its boiling point methyl sulfoxide degrades giving off formaldehyde, methyl mercaptan, and sulfur dioxide..

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin. Readily absorbed through skin.

Eye Contact

May cause eye irritation.

Inhalation

Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion

May be harmful if swallowed.

Target Organ(s) or System(s)

Eyes, Skin.

Conditions Aggravated by Exposure

Avoid contact with DMSO solutions containing toxic materials or materials with unknown toxicological properties. Dimethyl sulfoxide is readily absorbed through skin and may carry such materials into the body.

RTECS Number: PV6210000

Toxicity Data

Inhalation - Rat: > 1,600 mg/kg(LC50)

Oral - Rat: 14,500 mg/kg (LD50)
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Hemorrhage.
Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Conjunctive irritation.

Skin - Rat: 40,000 mg/kg (LD50)

Intraperitoneal - Rat: 8200 MG/KG (LD50)

Subcutaneous - Rat: 12 GM/KG (LD50)
Remarks: Behavioral:Change in motor activity (specific assay).
Lungs, Thorax, or Respiration:Dyspnea.

Intravenous - Rat: 5360 MG/KG (LD50)
Remarks: Behavioral:Tremor.
Behavioral:Muscle weakness.
Lungs, Thorax, or Respiration:Dyspnea.

Oral - Mouse: 7,920 mg/kg (LD50)

Skin - Mouse: 50,000 mg/kg (LD50)

Intraperitoneal - Mouse: 2500 MG/KG (LD50)

Subcutaneous - Mouse: 14 GM/KG (LD50)
Remarks: Behavioral:Change in motor activity (specific assay).
Lungs, Thorax, or Respiration:Other changes.
Kidney, Ureter, Bladder:Hematuria.

Intravenous - Mouse: 3100 MG/KG (LD50)
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Hemorrhage.

Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Conjunctive irritation.

Oral - Dog: > 10.000 mg/kg (LD50)

Intravenous - Dog: 2500 MG/KG (LD50)
Remarks: Cardiac:Other changes.
Kidney, Ureter, Bladder:Hematuria.
Kidney, Ureter, Bladder:Other changes.

Oral - Chicken: 12,000 mg/kg (LD50)

Oral - Mammal: 21,400 mg/kg (LD50)

Oral - Bird (wild): 100 mg/kg (LD50)

Irritation Data

Skin - Rabbit: 10 mg 24H
Remarks: Open irritation test

Skin - Rabbit: 500 mg 24H
Remarks: Mild irritation effect

Eyes - Rabbit: 100 mg

Eyes - Rabbit: 500 mg 24H
Remarks: Mild irritation effect

Chronic Exposure Carcinogen

Rat - Oral: 59 GM/KG 81W I
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Rat - Subcutaneous: 220 GM/KG 82W I
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Mouse - Oral: 65340 MG/KG 66W I
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Blood:Leukemia Skin and Appendages: Other: Tumors.

Mouse - Subcutaneous: 66 GM/KG 66W I
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration:Tumors. Skin and Appendages: Other: Tumors.

Chronic Exposure - Teratogen

Species	*Dose*	*Route of Application*	*Exposure Time*
Mouse	210 GM/KG	Intraperitoneal	(6-12D PREG)
Result: Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Musculoskeletal system.			
Mouse	5500 MG/KG	Intraperitoneal	(10D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.			
Hamster	11 GM/KG	Oral	(7D PREG)
Result: Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Musculoskeletal system.			
Hamster	5500 MG/KG	Intraperitoneal	(8D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Craniofacial (including nose and tongue).			
Hamster	4400 MG/KG	Intraperitoneal	(8D PREG)
Result: Effects on Embryo or Fetus: Fetal death. Specific Developmental Abnormalities: Central nervous system.			
Hamster	2500 MG/KG	Intravenous	(8D PREG)
Result: Specific Developmental Abnormalities: Central nervous system. Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system.			
Hamster	2500 MG/KG	Intravenous	(8D PREG)
Result: Specific Developmental Abnormalities: Other developmental abnormalities.			

Chronic Exposure - Mutagen

Species	Dose			Cell Type	Mutation test
Human	140 MMOL/L			lymphocyte	Other mutation test systems
Rat	25 GM/KG	Intraperitoneal	5D		Cytogenetic analysis
Mouse	75 MMOL/KG	Intraperitoneal			DNA damage
Mouse	93 GM/L			lymphocyte	Cytogenetic analysis
Mouse	1 MOL/L			lymphocyte	Mutation in mammalian somatic cells.
Hamster	19 PPH			ovary	Cytogenetic analysis
Hamster	1 PPH			lung	Cytogenetic analysis

Chronic Exposure - Reproductive Hazard

Species	Dose	Route of Application	Exposure Time
Rat	56 GM/KG	Intraperitoneal	(6-12D PREG)
	Result: Effects on Fertility: Abortion.		
Rat	6600 MG/KG	Intraperitoneal	(7-15D PREG)
	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).		
Rat	30750 MG/KG	Subcutaneous	(8-10D PREG)
	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Fertility: Litter size (e.g.: # fetuses per litter; measured before birth).		
Mouse	16 MG/KG	Oral	(5-9D PREG)
	Result: Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g.. stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system.		
Mouse	8250 MG/KG	Intraperitoneal	(10D PREG)
	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).		
Mouse	240 GM/KG	Intravenous	(1-20D PREG)
	Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).		

Section 12 - Ecological Information

Acute Ecotoxicity Tests

Test Type
LC50 Fish
Species
Onchorhynchus mykiss (Rainbow trout)

Time:	Value:
96.0 h	35,000 mg/l

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Combustible liquid. n.o.s.
UN#: 1993
Class: COMBUSTIBLE LIQUID
Packing Group: Packing Group III
Hazard Label: None.
PIH: Not PIH

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

US Classification and Label Text
US Statements
Combustible. Readily absorbed through skin. Target organ(s): Eyes. Skin.

United States Regulatory Information
SARA Listed: No

TSCA Inventory Item: Yes

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2003 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

MATERIAL SAFETY DATA SHEET

E.I. DuPont de Nemours & Co., Inc.
DuPont - NEN Research Products
549 Albany Street
Boston MA 02118

Product and Safety Information: (617) 482-9595
Medical Emergency : (800) 441-3637
Emergency Transportation : Chemtrec: (800) 424-9300
If in D.C.: (202) 483-7616

MATERIAL IDENTIFICATION

DISODIUM PHOSPHATE

MSDS NUMBER :**MSDS 2701,** DU001547

Revision Date : 10-Nov-92

MANUFACTURER/DISTRIBUTOR
MONSANTO COMPANY
BELPAR

PHONE NUMBERS
TRANSPORT EMERGENCY : CHEMTREC: 1-800-424-9300
MEDICAL EMERGENCY : 1-800-441-3637

TRADE NAMES / SYNONYMS
ANHYDROUS SODIUM ACID PHOSPHATE
DIBASIC SODIUM PHOSPHATE
DISODIUM ACID ORTHOPHOSPHATE
DISODIUM ACID PHOSPHATE
DISODIUM HYDROGEN PHOSPHATE
DISODIUM HYDROPHOSPHATE
DISODIUM MONOHYDROGEN PHOSPHATE
DISODIUM ORTHOPHOSPHATE
DISODIUM PHOSPHATE
DISODIUM PHOSPHORIC ACID
DSP
EXSICCATED SODIUM PHOSPHATE
HYDROGEN DISODIUM PHOSPHATE
MONOHYDROGEN DISODIUM PHOSPHATE
SECONDARY SODIUM PHOSPHATE
SODA PHOSPHATE
SODIUM MONOHYDROGEN PHOSPHATE
SODIUM PHOSPHATE, DIBASIC
AQUASTAR 221

CAS NAME : PHOSPHORIC ACID, DISODIUM SALT
CAS NUMBER : 7558-79-4
FORMULA : H3O4P.2Na
TSCA INVENTORY STATUS : Reported/Included

COMPONENTS

Material		CAS Number	%
DISODIUM PHOSPHATE	010620	7558-79-4	100

PHYSICAL DATA

Boiling Point	: Decomposes
Vapor Density	: 4.9 (Air = 1.0)
Melting Point	: 34 to 48 deg C (93 to 118 deg F)
% Volatiles	: Can lose 7 H2O
pH	: 9.0 at 1% Solution @ 25 deg C (77 deg F)
Odor	: Odorless
Form	: Crystals, granules or powder
Color	: Colorless or white
Bulk Density	: Powder 49-52 lbs/cu ft (loose) Granular 52-57 lbs/cu ft (packed)

Solubility in Water (g/100 g H2O)

:	1.7 @	0 deg C	(32 deg F)
:	11.5 @	25 deg C	(77 deg F)
:	51.7 @	40 deg C	(104 deg F)
:	78.8 @	60 deg C	(140 deg F)
:	102.4 @	100 deg C	(212 deg F)

Hygroscopic - Solubility much greater hot.

HAZARDOUS REACTIVITY

Instability	: Stable at normal temperatures and storage conditions.
Incompatibility	: Incompatible with magnesium, alkaloids, antipyrine, chloral hydrate, lead acetate, pyrogallol, resorcinol, strong mineral acids and strong organic acids.
Decomposition	: Decomposes with heat. Hazardous gases/vapors produced are oxides of phosphorous and sodium. Absorbs moisture from air, forming up to ~ 89% of its own weight.
Polymerization	: Polymerization will not occur.

FIRE AND EXPLOSION DATA

Will not burn.

FIRE AND EXPLOSION HAZARDS

Hazardous gases/vapors produced in fire are oxides of phosphrous and sodium.

EXTINGUISHING MEDIA

Use media appropriate for surrounding material.

SPECIAL FIRE FIGHTING INSTRUCTIONS

Keep personnel removed & upwind of fire. Wear self-contained breathing

apparatus. Wear full protective equipment. Cool tank/container with water spray.

HEALTH HAZARD INFORMATION

ANIMAL DATA

Skin Absorption LD50: > 7,940 mg/kg in rabbits
Oral LD50: 5,950 mg/kg in rats

The compound is a mild skin irritant, is a mild eye irritant, and is untested for animal sensitization. Toxic effects described in animals from short exposures by inhalation, ingestion, or skin contact include: kidney effects. Tests in animals demonstrate no embryotoxic activity.

HUMAN HEALTH EFFECTS

Overexposure by inhalation, ingestion, or skin or eye contact may cause skin irritation with rash; eye irritation with tearing, or blurring of vision.

CARCINOGENICITY

None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS

DISODIUM PHOSPHATE

TLV	**(ACGIH)**	: None Established
PEL	**(OSHA)**	: Particulates Not Otherwise Regulated 15 mg/m3 - 8 Hr TWA - Total Dust 5 mg/m3 - 8 Hr TWA - Respirable Dust

SAFETY PRECAUTIONS

Avoid breathing dust. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Wash clothing after use.

FIRST AID

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

(FIRST AID - Continued)

INGESTION

If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

NOTES TO PHYSICIAN

Activated charcoal slurry may be administered.
To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400mL water and mix thoroughly.
Administer 5mL/kg, or 350mL for an average adult.

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Keep container tightly closed. Avoid dust generation.

Keep in dry area and prevent moisture pickup and caking.

Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION
Wear safety glasses. Wear coverall chemical splash goggles, and face shield when the possibility exists for eye or face contact from airborne material.

RESPIRATORS
A NIOSH/MSHA approved air purifying respirator with a dust/mist cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

PROTECTIVE CLOTHING
Wear impervious clothing, such as gloves, apron, boots, or whole bodysuit as appropriate. No vendor recommendation on material of construction for protective clothing.

DISPOSAL INFORMATION

AQUATIC TOXICITY

96 hour LC50, bluegill sunfish: 7,600 ppm
96 hour LC50, rainbow trout: 5,600 ppm

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
Superfund reportable discharge = 5,000 lbs.

Sweep, scoop or vacuum up all spilled material, contaminated soil and other contaminated material & place in containers. If possible, complete cleanup on a dry basis. After all practical dry cleanup has been done, residual contamination can be flushed with plenty of water.

WASTE DISPOSAL

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Remove nonusable solid material and/or contaminated soil, for disposal in an approved and permitted landfill. Do not flush to surface water or sanitary sewer system.

SHIPPING INFORMATION

DOT

Proper Shipping Name : ORM-E, SOLID N.O.S. (BULK ONLY)
Hazard Class : ORM-E (BULK ONLY >5000 LBS)
UN/NA No. : NA9188

Reportable Quantity : 5,000 lbs.

STORAGE CONDITIONS

Store in well ventilated area. Keep container tightly closed.

Product is slightly hygroscopic and should be stored in a dry area to prevent moisture pickup and caking.

TITLE III HAZARD CLASSIFICATIONS

Acute : Yes
Chronic : No
Fire : No
Reactivity : No
Pressure : No

ADDITIONAL INFORMATION AND REFERENCES

Technical data, except for health information, based on Monsanto Company MSDS dated 2/3/92. Belpar Chemical Services MSDS dated 5/14/87.

Monsanto Company
800 North Lindbergh Blvd.
St. Louis, MO 63167
(314) 694-1000 (Emergency call collect)

Belpar Chemical Services
P.O. Box 68
Mineral Wells, WV
(304) 489-1118

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : Du Pont
Corporte MSDS Office - HR
Barley Mill Plaza, P14-2150
Wilmington, DE 19880-0014
302-992-6704

# Indicates updated section.

End of MSDS

Material Safety Data Sheet
Electrode Storage Solution

ACC# 40052

Section 1 - Chemical Product and Company Identification

MSDS Name: Electrode Storage Solution
Catalog Numbers: BP2418-1, BP24181, S60039, SE40 1, SE401
Synonyms: None.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	98.4	231-791-2
877-24-7	Potassium hydrogen phthalate	1	212-889-4
7447-40-7	Potassium chloride	0.6	231-211-8

Hazard Symbols: None listed.
Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. **Caution!** May cause eye and skin irritation. May cause respiratory and digestive tract irritation. This is expected to be a low hazard for usual industrial handling.
Target Organs: None.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Low hazard for usual industrial handling.
Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling.
Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid if irritation or symptoms occur.
Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material will not burn. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use with adequate ventilation.
Storage: Store in a cool, dry place.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Potassium hydrogen phthalate	none listed	none listed	none listed
Potassium chloride	none listed	none listed	none listed

OSHA Vacated PELs: Water: No OSHA Vacated PELs are listed for this chemical. Potassium hydrogen phthalate: No OSHA Vacated PELs are listed for this chemical. Potassium chloride: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear, colorless
Odor: odorless
pH: Not available.
Vapor Pressure: 14 mm Hg @20 deg C
Vapor Density: 0.7
Evaporation Rate:>1
Viscosity: Not available.
Boiling Point: 100 deg C
Freezing/Melting Point:0 deg C
Decomposition Temperature: Not available.
Solubility: Miscible with water.
Specific Gravity/Density:1
Molecular Formula: Mixture
Molecular Weight: Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Excess heat.
Incompatibilities with Other Materials: None reported.
Hazardous Decomposition Products: None.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

010628

CAS# 7732-18-5: ZC0110000
CAS# 877-24-7: CZ4326000
CAS# 7447-40-7: TS8050000
LD50/LC50:
Not available.

CAS# 877-24-7:
Dermal, guinea pig: LD50 = >1 gm/kg;
Oral, rat: LD50 = >3200 mg/kg;
CAS# 7447-40-7:
Carcinogenicity:
CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 877-24-7: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 7447-40-7: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	No information available.				No information available.
Hazard Class:					
UN Number:					
Packing Group:					

Section 15 - Regulatory Information

US FEDERAL

010629

TSCA
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 877-24-7 is listed on the TSCA inventory.
CAS# 7447-40-7 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 877-24-7: acute. CAS # 7447-40-7: acute.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 877-24-7 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 7447-40-7 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
Not available.
Risk Phrases:

Safety Phrases:
S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)
CAS# 7732-18-5: No information available.
CAS# 877-24-7: No information available.
CAS# 7447-40-7: 1
Canada - DSL/NDSL
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 877-24-7 is listed on Canada's DSL List.
CAS# 7447-40-7 is listed on Canada's DSL List.

01 630

Canada - WHMIS
This product has a WHMIS classification of Not controlled..
Canadian Ingredient Disclosure List
Exposure Limits

Section 16 - Additional Information

MSDS Creation Date: 4/27/1999
Revision #2 Date: 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
980 South Second St.
Ronkonkoma, NY 11779
Phone: 516-467-0980
Emergency Phone: 516-467-3535

SECTION 1. - - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: 362808
NAME: ETHYL ALCOHOL, DENATURED

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 64-17-5
MF: C2H6O
EC NO: 200-578-6

ADDITIONAL INFORMATION
CONTAINS METHYL ALCOHOL, CHEMICAL ABSTRACTS REGISTRY NUMBER 67-56-1.
CONTAINS 2-PROPANOL (ISOPROPYL ALCOHOL), CHEMICAL ABSTRACTS REGISTRY NUMBER 67-63-0.
RTECS DATA AND SYNONYMS SUPPLIED ARE FOR THE MOST ABUNDANT HAZARDOUS COMPONENT OF THIS PRODUCT.

SYNONYMS
ABSOLUTE ETHANOL * AETHANOL (GERMAN) * AETHYLALKOHOL (GERMAN) * ALCOHOL * ALCOHOLS, N.O.S. (UN1987) (DOT) * ALCOHOL, ANHYDROUS * ALCOHOL DEHYDRATED * ALCOOL ETHYLIQUE (FRENCH) * ALCOOL ETILICO (ITALIAN) * ALCOHOLS, TOXIC, N.O.S. (UN1986) (DOT) * ALGRAIN * ALKOHOL (GERMAN) * ALKOHOLU ETYLOWEGO (POLISH) * ANHYDROL * COLOGNE SPIRIT * ETANOLO (ITALIAN) * ETHANOL (DOT:OSHA) * ETHANOL SOLUTIONS (UN1170) (DOT) * ETHYL ALCOHOL (ACGIH:DOT:OSHA) * ETHYL ALCOHOL ANHYDROUS * ETHYL ALCOHOL SOLUTIONS (UN1170) (DOT) * ETHYL HYDRATE * ETHYL HYDROXIDE * ETYLOWY ALKOHOL (POLISH) * FERMENTATION ALCOHOL * GRAIN ALCOHOL * JAYSOL * JAYSOL S * METHYLCARBINOL * MOLASSES ALCOHOL * NCI-C03134 * POTATO ALCOHOL * SD ALCOHOL 23-HYDROGEN * SPIRITS OF WINE * SPIRT * TECSOL * UN1170 (DOT) * UN1986 (DOT) * UN1987 (DOT) *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS
FLAMMABLE (USA DEFINITION)
HIGHLY FLAMMABLE (EUROPEAN DEFINITION)
HARMFUL
HARMFUL BY INHALATION AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):
NERVES
EYES
KEEP CONTAINER TIGHTLY CLOSED.
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
AVOID CONTACT WITH SKIN.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
HYGROSCOPIC
KEEP TIGHTLY CLOSED.
HANDLE AND STORE UNDER NITROGEN.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS

010632

AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

EXTINGUISHING MEDIA
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.
FLAMMABLE LIQUID.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND FLASH BACK.
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

SHUT OFF ALL SOURCES OF IGNITION.
EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.
USE NONSPARKING TOOLS.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
USE ONLY IN A CHEMICAL FUME HOOD.
SAFETY SHOWER AND EYE BATH.
DO NOT BREATHE VAPOR.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
HARMFUL LIQUID.
IRRITANT.
KEEP TIGHTLY CLOSED.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
COLORLESS LIQUID

PHYSICAL PROPERTIES

BOILING POINT:	78 C	
MELTING POINT:	-130 C	
FLASHPOINT		48 F

010633

8C

EXPLOSION LIMITS IN AIR:
UPPER 19% 60 C
LOWER 3.3%
AUTOIGNITION TEMPERATURE: 793 F 422C
VAPOR PRESSURE: 40MM 19 C
SPECIFIC GRAVITY: 0.785
VAPOR DENSITY: 1.59

SECTION 10. - - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - - -

STABILITY
STABLE.

INCOMPATIBILITIES
OXIDIZING AGENTS
PEROXIDES
ACIDS
ACID CHLORIDES
ACID ANHYDRIDES
ALKALI METALS
AMMONIA
PROTECT FROM MOISTURE.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - - -

ACUTE EFFECTS
HARMFUL IF INHALED OR SWALLOWED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
CAUSES SKIN IRRITATION.
CAN CAUSE CNS DEPRESSION.
EXPOSURE CAN CAUSE:
GASTROINTESTINAL DISTURBANCES
NAUSEA, DIZZINESS AND HEADACHE
NARCOTIC EFFECT
PROLONGED OR REPEATED EXPOSURE TO SKIN CAUSES DEFATTING AND DERMATITIS.
MAY CAUSE CONVULSIONS.

CHRONIC EFFECTS
TARGET ORGAN(S):
NERVES
EYES
LIVER
KIDNEYS
HEART
CARDIOVASCULAR SYSTEM
G.I. SYSTEM
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
RTECS DATA AND SYNONYMS SUPPLIED ARE FOR THE MOST ABUNDANT HAZARDOUS COMPONENT OF THIS PRODUCT.

RTECS #: KQ6300000

ETHYL ALCOHOL

IRRITATION DATA

SKN-RBT 400 MG OPEN MLD	UCDS** 7/22/70
SKN-RBT 20 MG/24H MOD	85JCAE -,189,86
EYE-RBT 500 MG SEV	AJOPAA 29,1363,46
EYE-RBT 500 MG/24H MLD	85JCAE -,189,86
EYE-RBT 100 MG/4S RINSE MOD	FCTOD7 20,573,82

TOXICITY DATA

ORL-CHD LDLO:2 GM/KG	ATXKA8 17,183,58
ORL-HMN LDLO:1400 MG/KG	NPIRI* 1,44,74
SCU-INF LDLO:19440 MG/KG	AJCPAI 5,466,35
ORL-RAT LD50:7060 MG/KG	TXAPA9 16,718,70
IHL-RAT LC50:20000 PPM/10H	NPIRI* 1,44,74
IPR-RAT LD50:3600 UG/KG	PHMGBN 2,27,69
IVN-RAT LD50:1440 MG/KG	TXAPA9 18,60,71
IAT-RAT LD50:11 MG/KG	TXAPA9 18,60,71
ORL-MUS LD50:3450 MG/KG	GISAAA 32(3),31,67
IHL-MUS LC50:39 GM/M3/4H	GTPZAB 26(8),53,82
IPR-MUS LD50:528 MG/KG	STRAAA 127,245,65
SCU-MUS LD50:8285 MG/KG	FAONAU 48A,99,70
IVN-MUS LD50:1973 MG/KG	HBTXAC 1,128,55
ORL-RBT LD50:6300 MG/KG	HBTXAC 1,130,55
IPR-RBT LD50:963 MG/KG	EVHPAZ 61,321,85
IVN-RBT LD50:2374 MG/KG	EVHPAZ 61,321,85
ORL-GPG LD50:5560 MG/KG	JIHTAB 23,259,41
IPR-GPG LD50:3414 MG/KG	EVHPAZ 61,321,85
IPR-HAM LD50:5068 MG/KG	EVHPAZ 61,321,85
IPR-MAM LD50:4300 MG/KG	TXAPA9 13,358,68

TARGET ORGAN DATA

BEHAVIORAL (SLEEP)
BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
BEHAVIORAL (ATAXIA)
BEHAVIORAL (ANTIPSYCHOTIC)
BEHAVIORAL (HEADACHE)
BEHAVIORAL (CHANGE IN PSYCHOPHYSIOLOGICAL TESTS)
LUNGS, THORAX OR RESPIRATION (CHRONIC PULMONARY EDEMA OR CONGESTION)
LUNGS, THORAX OR RESPIRATION (DYSPNAE)
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
GASTROINTESTINAL (ALTERATION IN GASTRIC SECRETION)
GASTROINTESTINAL (HYPERMOTILITY, DIARRHEA)
GASTROINTESTINAL (NAUSEA OR VOMITING)
GASTROINTESTINAL (OTHER CHANGES)
LIVER (FATTY LIVER DEGENERATION)
LIVER (TUMORS)
BLOOD (OTHER CHANGES)
BLOOD (LYMPHOMA INCLUDING HODGKIN'S DISEASE)
PATERNAL EFFECTS (TESTES, EPIDIDYMIS, SPERM DUCT)
EFFECTS ON FERTILITY (FEMALE FERTILITY INDEX)
EFFECTS ON FERTILITY (MALE FERTILITY INDEX)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON FERTILITY (OTHER MEASURES OF FERTILITY)
EFFECTS ON EMBRYO OR FETUS (EXTRA EMBRYONIC STRUCTURES)
EFFECTS ON EMBRYO OR FETUS (CYTOLOGICAL CHANGES)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)

EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)
EFFECTS ON EMBRYO OR FETUS (OTHER EFFECTS TO EMBYRO OR FETUS)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (EYE, EAR)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CRANIOFACIAL)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (RESPIRATORY SYSTEM)
EFFECTS ON NEWBORN (GROWTH STATISTICS)
TUMORIGENIC (EQUIVOCAL TUMORIGENIC AGENT BY RTECS CRITERIA)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - - -

BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - - -

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - - -

EUROPEAN INFORMATION
EC INDEX NO: 603-002-00-5
HIGHLY FLAMMABLE
HARMFUL
R 11
HIGHLY FLAMMABLE.
S 7
KEEP CONTAINER TIGHTLY CLOSED.
S 16
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.

TLV AND SOURCE
FOR METHYL ALCOHOL - SKIN:
ACGIH TLV-TWA: 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).
OSHA PEL: 8 H TWA 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).
FOR 2-PROPANOL (ISOPROPYL ALCOHOL):
ACGIH TLV-TWA: 400 PPM (983 MG/M3); STEL: 500 PPM (1230 MG/M3).
OSHA PEL: 8H TWA. 400 PPM (983 MG/M3); STEL: 500 PPM (1225 MG/M3).
RTECS DATA AND SYNONYMS SUPPLIED ARE FOR THE MOST ABUNDANT HAZARDOUS COMPONENT OF THIS PRODUCT.

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
ACGIH TLV-TWA 1000 PPM 85INA8 6,575,91
IARC CANCER REVIEW:ANIMAL INADEQUATE EVIDENCE IMEMDT 44,35,88
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FEREAC 54,7740,89
MSHA STANDARD-AIR:TWA 1000 PPM (1900 MG/M3)
DTLVS* 3,103,71
OSHA PEL (GEN INDU):8H TWA 1000 PPM (1900 MG/M3)
CFRGBR 29,1910.1000,94
OSHA PEL (CONSTRUC):8H TWA 1000 PPM (1900 MG/M3)
CFRGBR 29,1926.55,94
OSHA PEL (SHIPYARD):8H TWA 1000 PPM (1900 MG/M3)
CFRGBR 29,1915.1000,93

OSHA PEL (FED CONT):8H TWA 1000 PPM (1900 MG/M3)
CFRGBR 41,50-204.50,94
OEL-AUSTRALIA:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-BELGIUM:TWA 1000 PPM (1880 MG/M3) JAN93
OEL-CZECHOSLOVAKIA:TWA 1000 MG/M3;STEL 5000 MG/M3 JAN93
OEL-DENMARK:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-FINLAND:TWA 1000 PPM (1900 MG/M3);STEL 1250 PPM (2400 MG/M3) JAN93
OEL-FRANCE:TWA 1000 PPM (1900 MG/M3);STEL 5000 PPM JAN93
OEL-GERMANY:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-HUNGARY:TWA 1000 MG/M3;STEL 3000 MG/M3 JAN93
OEL-THE NETHERLANDS:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-THE PHILIPPINES:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-POLAND:TWA 1000 MG/M3 JAN93
OEL-RUSSIA:STEL 1000 MG/M3 JAN93
OEL-SWEDEN:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-SWITZERLAND:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-THAILAND:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-TURKEY:TWA 1000 PPM (1900 MG/M3) JAN93
OEL-UNITED KINGDOM:TWA 1000 PPM (1900 MG/M3) JAN93
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO ETHYL ALCOHOL-AIR:10H TWA 1000 PPM
NIOSH* DHHS #92-100,92
NOHS 1974: HZD 31500; NIS 430; TNF 157709; NOS 242; TNE 2088926
NOES 1983: HZD 31500; NIS 334; TNF 86077; NOS 222; TNE 2069125; TFE 1014002
EPA GENETOX PROGRAM 1988, POSITIVE: RODENT DOMINANT LETHAL
EPA GENETOX PROGRAM 1988, NEGATIVE: ASPERGILLUS-FORWARD MUTATION; SHE-CLONAL ASSAY
EPA GENETOX PROGRAM 1988, NEGATIVE: CELL TRANSFORM.-RLV F344 RAT EMBRYO
EPA GENETOX PROGRAM 1988, NEGATIVE: IN VITRO CYTOGENETICS-NONHUMAN; MAMMALIAN MICRONUCLEUS
EPA GENETOX PROGRAM 1988, NEGATIVE: N CRASSA-ANEUPLOIDY; HISTIDINE REVERSION-AMES TEST
EPA GENETOX PROGRAM 1988, NEGATIVE: IN VITRO SCE-HUMAN LYMPHOCYTES; IN VITRO SCE-HUMAN
EPA GENETOX PROGRAM 1988, NEGATIVE: IN VITRO SCE-NONHUMAN; SPERM MORPHOLOGY-MOUSE
EPA GENETOX PROGRAM 1988, NEGATIVE/LIMITED: CARCINOGENICITY-MOUSE/RAT
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1995
NIOSH ANALYTICAL METHOD, 1994: ETHANOL IN BLOOD, 8002
NIOSH ANALYTICAL METHOD, 1994: ALCOHOLS I, 1400
NTP CARCINOGENESIS STUDIES; SELECTED, JULY 1995

U.S. INFORMATION
5.0% METHANOL 67-56-1
THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: ALCOHOL, ANHYDROUS
COMMON SYNONYMS: ETHANOL; ETHYL ALCOHOL
CHEMICAL FAMILY: ALCOHOLS
FORMULA: MIXTURE (C_2H_5OH + C_3H_7OH + CH_3OH)
FORMULA WT.: N/A
CAS NO.: N/A
NIOSH/RTECS NO.: KQ6300000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 5128,9400,9229,9401,A478

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #07

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	3	SEVERE (POISON)
FLAMMABILITY	-	4	EXTREME (FLAMMABLE)
REACTIVITY	-	2	MODERATE
CONTACT	-	2	MODERATE

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER

U.S. PRECAUTIONARY LABELING

POISON DANGER
EXTREMELY FLAMMABLE. HARMFUL IF INHALED. CAUSES IRRITATION. MAY BE FATAL OR

2 - PRODUCT IDENTIFICATION (continued)

CAUSE BLINDNESS IF SWALLOWED. CAN NOT BE MADE NON-POISONOUS. CAUTION: CONTAINS METHANOL. NOT FOR INTERNAL USE. EXCEPTIONAL HEALTH HAZARD: READ MATERIAL SAFETY DATA SHEET.
KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. KEEP CONTAINERS OUT OF SUN AND AWAY FROM HEAT. IN CASE OF FIRE, USE ALCOHOL FOAM, DRY CHEMICAL, CARBON DIOXIDE - WATER MAY BE INEFFECTIVE. IN CASE OF SPILL, SOAK UP WITH SAND OR EARTH.

PRECAUTIONARY LABELING (CONTINUED)

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
ETHANOL	64-17-5	90-95	1000 PPM	1000 PPM
2-PROPANOL	67-63-0	1-5	400 PPM	400 PPM
METHANOL	67-56-1	1-5	200 PPM	200 PPM

4 - PHYSICAL DATA

BOILING POINT: 78 C (172 F)
(AT 760 MM HG)

MELTING POINT: -114 C (-173 F)
(AT 760 MM HG)

SPECIFIC GRAVITY: 0.79
(H2O=1)

SOLUBILITY(H20): COMPLETE (100%)

VAPOR PRESSURE (MMHG): 44
(20 C)

VAPOR DENSITY (AIR=1): 1.6

EVAPORATION RATE: 2.7
(BUTYL ACETATE = 1)

% VOLATILES BY VOLUME: 100
(21 C)

4 - PHYSICAL DATA (continued)

PH: N/A

ODOR THRESHOLD (P.P.M.): 1000 PHYSICAL STATE: LIQUID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID. PLEASANT ODOR.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): 12 C (55 F) NFPA 704M RATING: 0-3-0

AUTOIGNITION TEMPERATURE: 362 C (685 F)

FLAMMABLE LIMITS: UPPER - 19.0 % LOWER - 3.3 %

FIRE EXTINQUISHING MEDIA
USE ALCOHOL FOAM, DRY CHEMICAL OR CARBON DIOXIDE. (WATER MAY BE INEFFECTIVE.)

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS
VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SOURCES AND FLASH BACK. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE.

TOXIC GASES PRODUCED
CARBON MONOXIDE, CARBON DIOXIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 1900 MG/M (1000 PPM)

TLV IS FOR ETHYL ALCOHOL.

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 1900 MG/M (1000 PPM)

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR ETHANOL	7060 MG/KG
INTRAPERITONEAL RAT LD50 FOR ETHANOL	4070 MG/KG
INTRAVENOUS RAT LD50 FOR ETHANOL	1440 MG/KG
INHALATION-4HR MOUSE LC50 FOR ETHANOL	39 G/M
ORAL RAT LD50 FOR 2-PROPANOL	5840 MG/KG
INTRAPERITONEAL MOUSE LD50 FOR 2-PROPANOL	933 MG/KG
ORAL DOG LD50 FOR 2-PROPANOL	6150 MG/KG
SKIN RABBIT LD50 FOR 2-PROPANOL	13 G/KG
ORAL RAT LD50 FOR METHANOL	5628 MG/KG
INTRAPERITONEAL RAT LD50 FOR METHANOL	9540 MG/KG
SUBCUTANEOUS MOUSE LD50 FOR METHANOL	9800 MG/KG
SKIN RABBIT LD50 FOR METHANOL	20 G/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
ETHANOL HAS BEEN LINKED TO CANCER IN HUMANS.

REPRODUCTIVE EFFECTS
ETHANOL HAS BEEN LINKED TO BIRTH DEFECTS IN HUMANS.

EFFECTS OF OVEREXPOSURE

INHALATION: HEADACHE, NAUSEA, VOMITING, DIZZINESS, DROWSINESS, IRRITATION OF UPPER RESPIRATORY TRACT, UNCONSCIOUSNESS, IRRITATION OF MUCOUS MEMBRANES

SKIN CONTACT: IRRITATION, PROLONGED CONTACT MAY CAUSE DERMATITIS

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: HEADACHE, NAUSEA, VOMITING, DIZZINESS, GASTROINTESTINAL IRRITATION, RESPIRATORY FAILURE, CENTRAL NERVOUS SYSTEM DEPRESSION, CONVULSIONS, UNCONSCIOUSNESS, BLINDNESS, AND MAY BE FATAL.

6 - HEALTH HAZARD DATA (continued)

CHRONIC EFFECTS: DAMAGE TO LIVER, KIDNEYS, EYES, LUNGS, CENTRAL NERVOUS SYSTEM, BRAIN, SPLEEN, BLOOD

TARGET ORGANS
RESPIRATORY SYSTEM, LUNGS, KIDNEYS, LIVER, BLOOD, EYES, SKIN, CENTRAL NERVOUS SYSTEM, BRAIN, SPLEEN, HEART, STOMACH, GI TRACT

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
LIVER DISORDERS, SKIN DISORDERS, CHRONIC IRRITATION OF MUCOUS MEMBRANES

PRIMARY ROUTES OF ENTRY
INGESTION, INHALATION, SKIN CONTACT, EYE CONTACT, ABSORPTION

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER. INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

MEDICAL SURVEILLANCE
PROVIDE PERIODIC MEDICAL EXAMINATIONS WITH EMPHASIS ON LUNGS, SKIN, RESPIRATORY SYSTEM, AND LIVER.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: YES PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE:	NO	
CERCLA HAZARDOUS SUBSTANCE:	YES	CONTAINS METHANOL (RQ = 5000 LBS)
SARA 313 TOXIC CHEMICALS:	YES	CONTAINS ISOPROPYL ALCOHOL AND METHANOL
GENERIC CLASS:		GENERIC CLASS REMOVED FROM CFR: 7/1/91
TSCA INVENTORY:	YES	

7 - REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION, SUNLIGHT, ULTRAVIOLET LIGHT

INCOMPATIBLES: STRONG OXIDIZING AGENTS, ALUMINUM, ALKALI METALS, ACETYL CHLORIDE, STRONG ACIDS, ACID CHLORIDES, ACID ANHYDRIDES, STRONG REDUCING AGENTS

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. SHUT OFF IGNITION SOURCES; NO FLARES, SMOKING OR FLAMES IN AREA. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. TAKE UP WITH SAND OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO CONTAINER FOR LATER DISPOSAL. FLUSH AREA WITH WATER.

J. T. BAKER SOLUSORB(R) SOLVENT ADSORBENT IS RECOMMENDED FOR SPILLS OF THIS PRODUCT.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER: D001 (IGNITABLE WASTE)

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, A CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE IS RECOMMENDED. IF CONCENTRATION EXCEEDS CAPACITY OF CARTRIDGE RESPIRATOR, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT (continued)

EYE/SKIN PROTECTION: SAFETY GOGGLES AND FACE SHIELD, UNIFORM,PROTECTIVE SUIT, NEOPRENE GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL, DRY, WELL-VENTILATED, FLAMMABLE LIQUID STORAGE AREA OR CABINET.

SPECIAL PRECAUTIONS
BOND AND GROUND CONTAINERS WHEN TRANSFERRING LIQUID.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: ALCOHOLS, N.O.S. (CONTAINS ETHANOL, 2-PROPANOL)
HAZARD CLASS: 3
UN/NA: UN1987 PACKAGING GROUP: II
LABELS: 3 FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: ALCOHOLS, N.O.S. (CONTAINS ETHANOL, 2-PROPANOL)
HAZARD CLASS: 3.2 I.M.O. PAGE: 3175
UN: UN1987 MARINE POLLUTANTS: NO PACKAGING GROUP: II
LABELS: FLAMMABLE LIQUID
REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: ALCOHOLS, N.O.S. (CONTAINS ETHANOL, 2-PROPANOL)
HAZARD CLASS: 3
UN: UN1987 PACKAGING GROUP: II
LABELS: FLAMMABLE LIQUID

SOLUTIONS DEPARTMENT
MSDS for EVAN'S BLUE-0.07%

1 - Site Specific Information

GENERAL STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: EVAN'S BLUE-0.07%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#
EVAN'S BLUE	0.07	314-13-6
H2O	99.93	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	4	4	0	0

SPECIAL HAZARD RATING: CARCINOGENIC

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: EVAN S BLUE
COMMON SYNONYMS: DIRECT BLUE 53, CI 23860
CHEMICAL FAMILY: DYES, STAINS, AND INDICATORS
FORMULA: C34H24N6O14S4NA4
FORMULA WT.: 960.82
CAS NO.: 314-13-6
NIOSH/RTECS NO.: QJ6440000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: M372

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #03

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	2	MODERATE
FLAMMABILITY	-	1	SLIGHT
REACTIVITY	-	1	SLIGHT
CONTACT	-	2	MODERATE

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

U.S. PRECAUTIONARY LABELING

CAUTION

MAY CAUSE IRRITATION.
AVOID CONTACT WITH EYES, SKIN, CLOTHING. KEEP IN TIGHTLY CLOSED CONTAINER.

2 - PRODUCT IDENTIFICATION (continued)

WASH THOROUGHLY AFTER HANDLING.

INTERNATIONAL LABELING

TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED. POSSIBLE RISKS OF IRREVERSIBLE EFFECTS.
AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
EVAN S BLUE	314-13-6	90-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

MELTING POINT: N/A

SPECIFIC GRAVITY: N/A
(H2O=1)

SOLUBILITY(H20): APPRECIABLE (¢10%)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: BLUE CRYSTALS.

VAPOR PRESSURE (MMHG): N/A

VAPOR DENSITY (AIR=1): N/A

EVAPORATION RATE: N/A

% VOLATILES BY VOLUME: 0
(21 C)

PHYSICAL STATE: SOLID

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

UNUSUAL FIRE & EXPLOSION HAZARDS
NONE IDENTIFIED.

TOXIC GASES PRODUCED
SULFUR DIOXIDE, OXIDES OF NITROGEN, CARBON MONOXIDE, CARBON DIOXIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

NO INFORMATION IS AVAILABLE
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA (continued)

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: NONE IDENTIFIED

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NONE IDENTIFIED

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
SKIN CONTACT, EYE CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

6 - HEALTH HAZARD DATA (continued)

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE DOCUMENTED

INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG REDUCING AGENTS

DECOMPOSITION PRODUCTS: OXIDES OF SULFUR, OXIDES OF NITROGEN, CARBON MONOXIDE, CARBON DIOXIDE

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, RUBBER GLOVES ARERECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 32041200004

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

EMD

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Printable Version

EMD

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name Extran 300

Product Code EX0996

Manufacturer EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.

Effective Date 4/12/2004

For More Information Call
856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call
800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym None.
Material Uses Laboratory Reagent
Chemical Family Caustic Solution

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Sodium Hydroxide	1310-73-2	1-5
Ethanolamine	141-43-5	10-20
EDTA di-Sodium Dihydrate	6381-92-6	9-10
Marlipal MG	9002-92-0	<1.1
Marlipal 0 13/90	69011-36-5	<1.1
Emulsifier K-30	68188-18-1	1-5
Water	7732-18-5	>58

Section 3. Hazards Identification

Physical State and Appearance Liquid. (Viscous liquid.)

Emergency Overview DANGER !POISON !
MAY BE FATAL IF ABSORBED THROUGH SKIN.
HARMFUL IF SWALLOWED.
CAUSES EYE AND SKIN BURNS.
CAUSES RESPIRATORY TRACT IRRITATION.
MAY BE HARMFUL IF INHALED.

Routes of Entry Dermal contact. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes Hazardous in case of eye contact (corrosive). Causes eye burns.
Skin Extremely hazardous in case of skin contact (permeator). May be fatal if absorbed. Hazardous in case of skin contact (corrosive). Skin contact produces burns.
Inhalation Hazardous in case of inhalation (lung irritant).
Ingestion Hazardous in case of ingestion.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure: Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Flammability of the Product Non-flammable.

Auto-ignition Temperature Not applicable.

Flash Points Not applicable.

Flammable Limits Not applicable.

Products of Combustion Not applicable.

Fire Hazards in Presence of Various Substances Not applicable.

Explosion Hazards in Presence of Various Substances
Risks of explosion of the product in presence of static discharge: No.
Risks of explosion of the product in presence of mechanical impact: No.

Fire Fighting Media and Instructions Not applicable.

Protective Clothing (Fire) Wear MSHA/NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

Special Remarks on Fire Hazards When heated to decomposition it emits toxic fumes.

Special Remarks on Explosion Hazards Combustible liquid and vapor. (Ethanolamine)

Section 6. Accidental Release Measures

Small Spill and Leak Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill and Leak Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Spill Kit Information The following EMD Chemicals Inc. SpillSolv (TM) absorbent is recommended for this product: SX1320 Caustic Treatment Kit

Section 7. Handling and Storage

Handling Do not ingest. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

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Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.

Personal Protection

Eyes Face shield.
Body Full suit.
Respiratory Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands Gloves.
Feet Boots.

Protective Clothing (Pictograms)

Personal Protection in Case of a Large Spill Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	Exposure Limits
Sodium Hydroxide	**ACGIH (United States).** CEIL: 2 mg/m3 **OSHA (United States).** CEIL: 2 mg/m3 **AUVA (Austria, 1995).** Spitzenbegrenzung: 4 mg/m3 8 times per shift, 5 minute(s). TWA: 2 mg/m3 8 hour(s). **Belgium Minister of Labour (Belgium, 1998).** CEIL: 2 mg/m3 VL: 2 mg/m3 8 hour(s). **BAUA (Germany, 1997).** Spitzenbegrenzung: 2 mg/m3 TWA: 2 mg/m3 8 hour(s). **DK-Arbejdstylsinet (Denmark, 1996).** Loftværdi: 2 mg/m3 GV: 2 mg/m3 8 hour(s). **Tyterveyslaitos (Finland, 1998).** TWA: 2 mg/m3 8 hour(s). **INRS (France, 1996).** VME: 2 mg/m3 8 hour(s). **National Authority for Occupational Safety/Health (Ireland, 1999).** STEL: 2 mg/m3 15 minute(s). **Arbeidsinspectie (Netherlands, 1999).** MAC-C: 2 mg/m3 TGG 8 uur: 2 mg/m3 8 hour(s). **N-Arbeidstylsinet (Norway, 1996).** AN: 2 mg/m3 8 hour(s). **AFS (Sweden, 1996).** KTV: 2 mg/m3 15 minute(s). **EH40-OES (United Kingdom (UK), 1997).** STEL: 2 mg/m3 15 minute(s). **NIOSH REL (United States, 1994).** CEIL: 2 mg/m3 **OSHA Final Rule (United States, 1989).** CEIL: 2 mg/m3
Ethanolamine	**AUVA (Austria, 1995).** Spitzenbegrenzung: 40 mg/m3 2 times per shift, 30 minute(s). Spitzenbegrenzung: 15 ppm 2 times per shift, 30 minute(s). TWA: 8 mg/m3 8 hour(s). TWA: 3 ppm 8 hour(s). **Belgium Minister of Labour (Belgium, 1998).** VCD: 15 mg/m3 15 minute(s). VCD: 6 ppm 15 minute(s). VL: 7.6 mg/m3 8 hour(s). VL: 3 ppm 8 hour(s). **BAUA (Germany, 1997). Skin** Spitzenbegrenzung: 5.1 mg/m3 Spitzenbegrenzung: 2 ppm TWA: 5.1 mg/m3 8 hour(s). TWA: 2 ppm 8 hour(s). **DK-Arbejdstylsinet (Denmark, 1996). Skin**

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GV: 2.5 mg/m3 8 hour(s).
GV: 1 ppm 8 hour(s).
Tyterveyslaitos (Finland, 1998).
STEL: 15 mg/m3 15 minute(s).
STEL: 6 ppm 15 minute(s).
TWA: 7.6 mg/m3 8 hour(s).
TWA: 3 ppm 8 hour(s).
INRS (France, 1996).
VME: 8 mg/m3 8 hour(s).
VME: 3 ppm 8 hour(s).
National Authority for Occupational Safety/Health (Ireland, 1999).
STEL: 15 mg/m3 15 minute(s).
STEL: 6 ppm 15 minute(s).
OEL: 8 mg/m3 8 hour(s).
OEL: 3 ppm 8 hour(s).
Arbeidsinspectie (Netherlands, 1999). Skin
TGG 15 min: 7.6 mg/m3 15 minute(s).
TGG 15 min: 3 ppm 15 minute(s).
TGG 8 uur: 2.5 mg/m3 8 hour(s).
TGG 8 uur: 1 ppm 8 hour(s).
N-Arbeidstylsinet (Norway, 1996).
AN: 8 mg/m3 8 hour(s).
AN: 3 ppm 8 hour(s).
AFS (Sweden, 1996). Skin
KTV: 15 mg/m3 15 minute(s).
KTV: 6 ppm 15 minute(s).
NGV: 8 mg/m3 8 hour(s).
NGV: 3 ppm 8 hour(s).
EH40-OES (United Kingdom (UK), 1997).
STEL: 15 mg/m3 15 minute(s).
STEL: 6 ppm 15 minute(s).
TWA: 7.6 mg/m3 8 hour(s).
TWA: 3 ppm 8 hour(s).
ACGIH (United States, 1994).
STEL: 15 mg/m3 15 minute(s).
STEL: 6 ppm 15 minute(s).
TWA: 7.5 mg/m3 8 hour(s).
TWA: 3 ppm 8 hour(s).
NIOSH REL (United States, 1994).
STEL: 15 mg/m3 15 minute(s).
STEL: 6 ppm 15 minute(s).
TWA: 8 mg/m3 10 hour(s).
TWA: 3 ppm 10 hour(s).
OSHA Final Rule (United States, 1989).
STEL: 15 mg/m3 15 minute(s).
STEL: 6 ppm 15 minute(s).
TWA: 8 mg/m3 8 hour(s).
TWA: 3 ppm 8 hour(s).

EDTA di-Sodium Dihydrate	Not available.
Marlipal MG	Not available.
Marlipal 0 13/90	Not available.
Emulsifier K-30	Not available.
Water	Not available.

Section 9. Physical and Chemical Properties

Odor	Odorless.
Color	Off-white.
Physical State and Appearance	Liquid. (Viscous liquid.)
Molecular Weight	Not applicable.
Molecular Formula	Not applicable.
pH	Not available.
Boiling/Condensation Point	The lowest known value is 99.9°C (211.8°F) (Water). Weighted average: 114.3°C (237.7°F)
Melting/Freezing Point	May start to solidify at 38.06 to 42.06°C (100.5 to 107.7°F) based on data for: Marlipal MG. Weighted average: 2.63°C (36.7°F)
Specific Gravity	1.063 (Water = 1)
Vapor Pressure	The highest known value is 0.06 kPa (0.5 mmHg) (@ 20°C) (Ethanolamine).
Vapor Density	The highest known value is 2.11 (Air = 1) (Ethanolamine).
Odor Threshold	The lowest known value is 2 ppm (Ethanolamine)
Evaporation Rate	0.36 (Water) compared to(n-Butyl Acetate =1)
LogKow	Not available.

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Solubility Soluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.
Conditions of Instability Absorbs CO2 from air. (Ethanolamine)
Incompatibility with Various Substances Highly reactive with oxidizing agents, acids.
Slightly reactive to reactive with reducing agents, organic materials, metals.
Rem/Incompatibility Avoid generating dust or vapors. Extreme heat (EDTA di-Sodium Dihydrate)
Hazardous Decomposition Products Not available.
Hazardous Polymerization Will not occur.

Section 11. Toxicological Information

RTECS Number:

Sodium Hydroxide	WB4900000
2-Aminoethanol	KJ5775000
EDTA di-Sodium Dihydrate	Not available.
Marlipal MG	JR5970000, JR5990000, MD0875000, JR5960000
Emulsifier K-30	Not available.
Marlipal 013/90	Not available.
Water	ZC0110000

Toxicity Acute oral toxicity (LD50): 700 mg/kg [Mouse]. (Ethanolamine).
Acute dermal toxicity (LD50): 1 mg/kg [Rabbit]. (Ethanolamine).
Chronic Effects on Humans Not available.
Acute Effects on Humans Hazardous in case of eye contact (corrosive). Causes eye burns. Extremely hazardous in case of skin contact (permeator). May be fatal if absorbed. Hazardous in case of skin contact (corrosive). Skin contact produces burns. Hazardous in case of inhalation (lung irritant). Hazardous in case of ingestion.
Synergetic Products (Toxicologically) Not available.
Irritancy Draize Test: Not available.
Sensitization Not available.
Carcinogenic Effects This material is not known to cause cancer in animals or humans.
Toxicity to Reproductive System Not available.
Teratogenic Effects Not available.
Mutagenic Effects Not available.

Section 12. Ecological Information

Ecotoxicity Not available.
BOD5 and COD Not available.
Toxicity of the Products of Biodegradation The products of degradation are less toxic than the product itself.

Section 13. Disposal Considerations

EPA Waste Number D002
Treatment Specified Technology - Contact your local permitted waste disposal site (TSD) for permissible treatment sites. ALWAYS CONTACT PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

+ Section 14. Transport Information

DOT Classification Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S.(CONTAINS MONOETHANOLAMINE, SODIUM HYDROXIDE)
Hazard Class: 8
UN number: UN1760
Packing Group: III
RQ: Not applicable.

TDG Classification Not available.

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IMO/IMDG Classification	Proper Shipping Name: CORROSIVE LIQUIDS, N.O.S. (CONTAINS MONOETHANOLAMINE, SODIUM HYDROXIDE) Hazard Class: 8 UN number: UN1760 Packing Group: III RQ: Not applicable.
ICAO/IATA Classification	Not available.

Section 15. Regulatory Information

U.S. Federal Regulations TSCA 8(b) inventory: Sodium Hydroxide; Ethanolamine; Marlipal MG; EDTA di-Sodium Dihydrate; Marlipal 0 13/90; Emulsifier K-30; Water
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Sodium Hydroxide; Ethanolamine; Marlipal MG
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Sodium Hydroxide: Immediate (Acute) Health Hazard; Ethanolamine: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Marlipal MG: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: Sodium Hydroxide
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada) Class D-1A: Material causing immediate and serious toxic effects (VERY TOXIC).
Class D-2A: Material causing other toxic effects (VERY TOXIC).
Class D-2B: Material causing other toxic effects (TOXIC).
CLASS E: Corrosive liquid.
CEPA DSL: Sodium Hydroxide; Ethanolamine; Marlipal MG; Marlipal 0 13/90; Water
This product has been classifed in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

International Regulations

EINECS Sodium Hydroxide 215-185-5
Ethanolamine 205-483-3
Marlipal MG Not available.
EDTA di-Sodium Dihydrate 205-358-3
Marlipal 0 13/90 Not available.
Emulsifier K-30 Not available.
Water 231-791-2

DSCL (EEC) R27- Very toxic in contact with skin.
R22- Harmful if swallowed.
R34- Causes burns.

International Lists Australia (NICNAS): Sodium Hydroxide; Ethanolamine; Marlipal MG; Marlipal 0 13/90; Water

Germany water class: Marlipal MG; Marlipal 0 13/90

Japan (MITI): Sodium Hydroxide; Ethanolamine; Water

Korea (TCCL): Sodium Hydroxide; Ethanolamine; Marlipal MG; Marlipal 0 13/90; Water

Philippines (RA6969): Sodium Hydroxide; Ethanolamine; Marlipal MG; Marlipal 0 13/90; Water
China: No products were found.

State Regulations Pennsylvania RTK: Sodium Hydroxide: (environmental hazard, generic environmental hazard); Ethanolamine: (generic environmental hazard)
Massachusetts RTK: Sodium Hydroxide; Ethanolamine
New Jersey: Extran 300
California prop. 65: No products were found.

Section 16. Other Information

National Fire Protection Association (U.S.A.)

Health	2	Fire Hazard
	0	Reactivity
		Specific Hazard

Changed Since Last Revision +

010659

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
3 / 2 / 0	Health Hazard 2 Fire Hazard 3 Reactivity 0	See Section 15.

Section 1. Chemical Product and Company Identification

Page Number: 1

Common Name/ Trade Name	**Ethyl alcohol 200 Proof**	Catalog Number(s).	E1424, E1028, ET107, YY604
		CAS#	64-17-5
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	KQ6300000
		TSCA	TSCA 8(b) inventory: Ethyl alcohol 200 Proof
Commercial Name(s)	Not available.	CI#	Not applicable.
Synonym	Ethanol; Absolute Ethanol; Alcohol; Ethanol 200 proof; Ethyl Alcohol Anhydrous; Ethanol, undenatured; Dehydrated Alcohol; Alcohol	**IN CASE OF EMERGENCY** **CHEMTREC (24hr) 800-424-9300**	
Chemical Name	Ethyl Alcohol		
Chemical Family	Aliphatic alcohol or glycol. (Solvent.)	CALL (310) 516-8000	
Chemical Formula	CH3CH2OH		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m^3)	STEL (mg/m^3)	CEIL (mg/m^3)	% by Weight
1) Ethyl alcohol 200 Proof	64-17-5	1900			100

Toxicological Data on Ingredients

Ethyl alcohol 200 Proof:
ORAL (LD50): Acute: 7060 mg/kg [Rat]. 3450 mg/kg [Mouse].
VAPOR (LC50): Acute: 20000 ppm 8 hours [Rat]. 39000 mg/m^3 4 hours [Mouse].

Section 3. Hazards Identification

Potential Acute Health Effects
Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator), of ingestion.

Potential Chronic Health Effects
Slightly hazardous in case of skin contact (sensitizer).
CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Classified PROVEN for human.
DEVELOPMENTAL TOXICITY: Classified Development toxin [PROVEN]. Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE].
The substance is toxic to blood, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Flammable.
Auto-Ignition Temperature	363°C (685.4°F)
Flash Points	CLOSED CUP: 12.78°C (55°F). OPEN CUP: 17.78°C (64°F) (Cleveland).
Flammable Limits	LOWER: 3.3% UPPER: 19%
Products of Combustion	These products are carbon oxides (CO, CO2).
Fire Hazards in Presence of Various Substances	Highly flammable in presence of open flames and sparks, of heat. Slightly flammable to flammable in presence of oxidizing materials.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks, of heat, of oxidizing materials, of acids.
Fire Fighting Media and Instructions	Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.
Special Remarks on Fire Hazards	Containers should be grounded. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME Vapor may travel considerable distance to source of ignition and flash back. May form explosive mixtures with air. Contact with Bromine pentafluoride is likely to cause fire or explosion. Ethanol ignites on contact with chromyl chloride. Ethanol ignites on contact with iodine heptafluoride gas. It ignites than explodes upon contact with nitrosyl perchlorate. Additon of platinum black catalyst caused ignition.
Special Remarks on Explosion Hazards	Ethanol has an explosive reaction with the oxidized coating around potassium metal. Ethanol ignites and then explodes on contact with acetic anhydride + sodium hydrosulfate (ignites and may explode), disulfuric acid + nitric acid, phosphorous(III) oxide platinum, potassium-tert-butoxide+ acids. Ethanol forms explosive products in reaction with the following compound : ammonia + silver nitrate (forms silver nitride and silver fulminate), iodine + phosphorus (forms ethane iodide), magnesium perchlorate (forms ethyl perchlorate), mercuric nitrate, nitric acid + silver (forms silver fulminate) silver nitrate (forms ethyl nitrate) silver(I) oxide + ammonia or hydrazine (forms silver nitride and silver fulminate), sodium (evolves hydrogen gas). Sodium Hydrazide + alcohol can produce an explosion. Alcohols should not be mixed with mercuric nitrate, as explosive mercuric fulminate may be formed. May form explosive mixture with manganese perchlorate + 2,2-dimethoxypropane. Addition of alcohols to highly concentrate hydrogen peroxide forms powerful explosives. Explodes on contact with calcium hypochlorite Vapor may explode if ignited in an enclosed area. Containers may explode when heated or involved in a fire.

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Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large Spill	Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis, moisture.
Storage	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Do not store above 23°C (73.4°F).

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Use a respirator if the exposure limit is exceeded.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 1900 (mg/m^3) from OSHA (PEL) [United States] TWA: 1000 (ppm) from OSHA (PEL) [United States] TWA: 1900 (mg/m^3) from NIOSH [United States] TWA: 1000 (ppm) from NIOSH [United States] TWA: 1000 (ppm) [United Kingdom (UK)] TWA: 1920 (mg/m^3) [United Kingdom (UK)] TWA: 1000 STEL: 1250 (ppm) [Canada] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid. (Liquid.)	**Odor**	Mild to strong, rather pleasant; like wine or whiskey. Alcohol-like; Ethereal, vinous.
Molecular Weight	46.07 g/mole	**Taste**	Pungent. Burning.
pH (1% soln/water)	Not available.	**Color**	Colorless. Clear
Boiling Point	78.5°C (173.3°F)		
Melting Point	-114.1°C (-173.4°F)		
Critical Temperature	243°C (469.4°F)		
Specific Gravity	0.789 (Water = 1)		
Vapor Pressure	5.7 kPa (@ 20°C)		
Vapor Density	1.59 (Air = 1)		
Volatility	Not available.		

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Odor Threshold	100 ppm
Water/Oil Dist. Coeff.	The product is more soluble in water; log(oil/water) = -0.3
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol, diethyl ether, acetone.
Solubility	Easily soluble in cold water, hot water. Soluble in methanol, diethyl ether, acetone.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials, heat, sources of ignition.
Incompatibility with various substances	Reactive with oxidizing agents, acids, alkalis.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Ethanol rapidly absorbs moisture from the air. Can react vigorously with oxiders. The following oxidants have been demonstrated to undergo vigorous/explosive reaction with ethanol: barium perchlorate, bromine pentafluoride, calcium hypochlorite, chloryl perchlorate, chromium trioxide, chromyl chloride, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, nitric acid nitrosyl perchlorate, perchloric acid permanganic acid, peroxodisulfuric acid, potassium dioxide, potassium perchlorate, potassium permanganate, ruthenium(VIII) oxide silver perchlorate, silver peroxide, uranium hexafluoride, uranyl perchlorate. Ethanol reacts violently/expodes with the following compounds: acetyl bromide (evolves hydrogen bromide) acetyl chloride, aluminum, sesquibromide ethylate, ammonium hydroxide & silver oxide, chlorate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + methanol + mercuric oxide, manganese perchlorate + 2,2-dimethoxy propane, perchlorates, permanganates + sulfuric acid, potassium superoxide, potassium tert-butoxide, silver & nitric acid, silver perchlorate, sodium hydrazide, sulfuric acid + sodium dichromate, tetrachlorisilane + water. Ethanol is also incompatible with platinium, and sodium. No really safe conditions exist under which ethyl alcohol and chlorine oxides can be handled. Reacts vigorously with acetyl chloride
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	**WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.** Acute oral toxicity (LD50): 3450 mg/kg [Mouse]. Acute toxicity of the vapor (LC50): 39000 mg/m^3 4 hours [Mouse].
Chronic Effects on Humans	**CARCINOGENIC EFFECTS**: A4 (Not classifiable for human or animal.) by ACGIH. **MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. **TERATOGENIC EFFECTS**: Classified PROVEN for human. **DEVELOPMENTAL TOXICITY**: Classified Development toxin [PROVEN]. Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE]. Causes damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS).
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator), of ingestion.
Special Remarks on Toxicity to Animals	Lowest Published Dose/Conc: LDL[Human] - Route: Oral; Dose: 1400 mg/kg LDL[Human child] - Route: Oral; Dose: 2000 mg/kg LDL[Rabbit] - Route: Skin; Dose: 20000 mg/kg

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Special Remarks on Chronic Effects on Humans	May affect genetic material (mutagenic) Causes adverse reproductive effects and birth defects (teratogenic) , based on moderate to heavy consumption. May cause cancer based on animal data. Human: passes through the placenta, excreted in maternal milk.
Special Remarks on other Toxic Effects on Humans	Acute potential health effects: Skin: causes skin irritation Eyes: causes eye irritation Ingestion: May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea, and alterations in gastric secretions. May affect behavior/central nervous system (central nervous system depression - amnesia, headache, muscular incoordination, excitation, mild euphoria, slurred speech, drowsiness, staggaring gait, fatigue, changes in mood/personality, excessive talking, dizziness, ataxia, somnolence, coma/narcosis, hallucinations, distorted perceptions, general anesthetic), peripherial nervous system (spastic paralysis)vision (diplopia). Moderately toxic and narcotic in high concentrations. May also affect metabolism, blood, liver, respiration (dyspnea), and endocrine system. May affect respiratory tract, cardiovascular(cardiac arrhythmias, hypotension), and urinary systems. Inhalation: May cause irritation of the respiratory tract and affect behavior/central nervous system with symptoms similar to ingestion. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may casue dermatitis, an allergic reaction. Ingestion: Prolonged or repeated ingestion will have similiar effects as acute ingestion. It may also affect the brain.

Section 12. Ecological Information

Ecotoxicity	Ecotoxicity in water (LC50): 14000 mg/l 96 hours [Rainbow trout]. 11200 mg/l 24 hours [fingerling trout].
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	CLASS 3: Flammable liquid.
Identification	: Ethanol UNNA: 1170 PG: II
Special Provisions for Transport	Not available.
DOT (Pictograms)	

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Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Ethyl alcohol 200 Proof (in alcoholic beverages) California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Ethyl alcohol 200 Proof (in alcoholic beverages) Connecticut hazardous material survey.: Ethyl alcohol 200 Proof Illinois toxic substances disclosure to employee act: Ethyl alcohol 200 Proof Rhode Island RTK hazardous substances: Ethyl alcohol 200 Proof Pennsylvania RTK: Ethyl alcohol 200 Proof Florida: Ethyl alcohol 200 Proof Minnesota: Ethyl alcohol 200 Proof Massachusetts RTK: Ethyl alcohol 200 Proof Massachusetts spill list: Ethyl alcohol 200 Proof New Jersey: Ethyl alcohol 200 Proof Tennessee: Ethyl alcohol 200 Proof California - Directors List of Hazardous Substances (8 CCR 339): Ethyl alcohol 200 Proof TSCA 8(b) inventory: Ethyl alcohol 200 Proof
California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Ethyl alcohol 200 Proof (in alcoholic beverages)
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications	**WHMIS (Canada)** CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
	DSCL (EEC) R11- Highly flammable. S7- Keep container tightly closed. S16- Keep away from sources of ignition - No smoking.
HMIS (U.S.A.)	Health Hazard 2 Fire Hazard 3 Reactivity 0 Personal Protection E
National Fire Protection Association (U.S.A.)	Health 2, Flammability 3, Reactivity 0, Specific hazard
WHMIS (Canada) (Pictograms)	
DSCL (Europe) (Pictograms)	
TDG (Canada) (Pictograms)	
ADR (Europe) (Pictograms)	

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Protective Equipment

Gloves.

Lab coat.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16. Other Information

MSDS Code	E3280
References	-SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -Material safety data sheet emitted by: la Commission de la Santé et de la Sécurité du Travail du Québec. -Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed.. New York N.Y., Van Nostrand Reinold, 1987. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. HSDB, RTECS. and LOLI databases.
Other Special Considerations	Not available.

Validated by Sonia Owen on 8/13/2004.	**Verified by Sonia Owen.** **Printed 10/6/2004.**

CALL (310) 516-8000

<u>Notice to Reader</u>

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

BACHARACH, INC.
MSDS NO: 99-0004
MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet has been prepared to comply with the EC Directive, Canadian WHMIS and OSHA Hazard Communication Regulations.

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BACHARACH, INC.
625 ALPHA DR.
PITTSBURGH, PA 15238

EMERGENCY PHONE: (800) 424-9300 (CHEMTREC)

INFORMATION PHONE: (412) 963-2223
FAX: (412) 963-2091

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SECTION 1: IDENTIFICATION

PRODUCT NAME: FLUID, FYRITE, O2

PRODUCT NUMBER: 11-0169 MSDS NUMBER: 99-0004 REVISION NUMBER: 5

MSDS DATE OF PREPARATION/REVISION: 11-18-93

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SECTION 2: COMPOSITION

COMPONENT	CAS#	PERCENTAGE	EXPOSURE LIMITS
Water and Chloride	N/A	>78.5	None Established
Hydrochloric Acid	7647-01-0	3	5 ppm PEL-Ceiling 5 ppm TLV-Ceiling
Isooctyl Alcohols (C7-9)	68526-83-0	<0.8	50 ppm TLV-TWA skin
Zinc Chloride (as Zn)	7646-85-7	11.4	1 mg/m3 PEL-TWA 1 mg/m3 TLV-TWA 2 mg/m3 TLV-STEL
Chromium (II) Chloride (as Cr)	10049-05-5	6.3	0.5 mg/m3 PEL-TWA 0.5 mg/m3 TLV-TWA

Note: The Permissible Exposure Limits (PEL) reported above are the pre-1989 limits that were reinstated by OSHA June 30, 1993 following a decision by the 11th Circuit Court of Appeals. These PELs are those now being enforced by Federal OSHA. Be aware that more restrictive exposure limits may be enforced by some states, agencies or other authorities. The enforced PEL may not be adequate to ensure worker safety, so Bacharach, Inc. recommends that the lowest recommended exposure limit always be observed as reasonable worker protection.

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N/D=Not Determined 1 N/A=Not Applicable

BACHARACH, INC. MSDS

FLUID, FYRITE, O2 MSDS NO: 99-0004

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Blue liquid with an unpleasant chlorine odor. Corrosive material, liquid causes burns to the eyes and skin. Vapors are irritating and may be harmful. May cause narcosis and other nervous system effects.

ACUTE HEALTH HAZARDS:

EYE CONTACT: May cause chemical burns with possible permanent damage.

SKIN CONTACT: May cause chemical burns, severity depends on duration of contact.

INHALATION: May cause eye, mucous membrane and respiratory irritation. Severe overexposures may cause pulmonary edema.

INGESTION: May cause gastrointestinal corrosion, nausea, vomiting, intense thirst and shock followed by renal failure and liver injury.

CHRONIC HEALTH EFFECTS: Prolonged exposure to chromium salts may cause an allergic dermatitis, bronchial asthma and perforation of the nasal septum. Divalent and trivalent chromium compounds are considered to have a low order of systemic toxicity. Although hexavalent chromium is considered to be carcinogenic, trivalent and divalent chromium compounds are not.

CARCINOGEN STATUS: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP or OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin and respiratory conditions may be aggravated by exposure to this material.

SEE SECTION 11 - TOXICOLOGICAL INFORMATION FOR ADDITIONAL DATA

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SECTION 4: FIRST AID

EYE CONTACT: Immediately flush with copious amounts of water, at least 20 minutes, lifting the upper and lower lids. Get immediate medical attention.

SKIN CONTACT: Immediately flush with water while removing any contaminated clothing. Continue flushing for 20 minutes. Get medical attention if pain or irritation persists.

INHALATION: If acute overexposure occurs, remove victim to fresh air. Give artificial

respiration if needed. Get immediate medical attention.

INGESTION: Do not induce vomiting. Do not give anything by mouth to a person who is unconscious or convulsing. Immediately dilute with 2-3 glasses of water or milk. Get immediate medical attention.

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Not Combustible TEST METHOD: N/A
AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: LEL: N/A UEL: N/A

EXTINGUISHING MEDIA: Use any media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear NIOSH approved positive pressure self contained breathing apparatus and full protective clothing for all fires involving chemicals.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Isooctyl alcohol has a flash point of 183 F and is insoluble in water. Only a small amount is present (<1%) so only a very slight fire hazard exists. The balance is not combustible.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of carbon, hydrogen chloride, chlorine and possibly zinc and chromium compounds.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Wear recommended protective equipment. Dilute spill with water and neutralize with baking soda or soda ash. Absorb neutralized material and place in container for disposal.

SECTION 7: HANDLING AND STORAGE

WORK PRACTICES: Prevent contact with the eyes, skin and clothing. When fluid is used in instrument (Fyrite), do not vent in inverted position or before the fluid has drained from the top well of the Fyrite. Hold the Fyrite away from the face when venting instrument.

SPECIAL PRECAUTIONS: Always change Fyrite fluid in the immediate vicinity of sink with running water available because of the corrosive effect of Fyrite fluid.

STORAGE: Store in a cool, dry place, separate from caustic storage. Avoid crushing

containers. When opening refill containers internal pressure may eject plastic plug after the cap has been removed. Always open containers slowly, holding away from face.

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N/D=Not Determined 3 N/A=Not Applicable

BACHARACH, INC. MSDS

FLUID, FYRITE, O2 MSDS NO: 99-0004

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: General ventilation should be adequate.

RESPIRATORY PROTECTION: None required for normal use. Do not inhale vapors.

GLOVES: Rubber or other impervious gloves required when filling Fyrite or performing gas analysis.

EYE PROTECTION: Wear chemical safety goggles and face shield when filling Fyrite or performing gas analysis.

OTHER PROTECTIVE EQUIPMENT: An available source of running water for eye and skin flushing is recommended.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Blue liquid, unpleasant chlorine odor. The odor threshold for hydrochloric acid is 1-5 ppm.

pH: <1 SPECIFIC GRAVITY: >1
BOILING POINT: >100 C VAPOR PRESSURE: N/AV
MELTING POINT: <0 C VAPOR DENSITY: N/AV
SOLUBILITY IN WATER: Octanol-insoluble PERCENT VOLATILE: >50%
COEFFICIENT WATER/OIL: N/A

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SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Extremely high temperatures.

INCOMPATIBILITY: Metals, bases, many organic materials including cyanides, sulfides,

aldehydes. Avoid exposure to any chemical whose compatibility has not been established.

HAZARDOUS DECOMPOSITION PRODUCTS: Reaction with metals can liberate flammable hydrogen gas. Heating to decomposition will release HCl, Cl2, possibly chromium and zinc cmpds.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: N/A

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SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA: Chromium (II) chloride: LD50 oral rat - 1870 mg/kg. Hydrochloric acid: LC50 rat - 3124 ppm/1hr.

IRRITANCY DATA: This material is corrosive to tissues.

SENSITIZATION: Chromium salts have been reported to cause skin and respiratory sensitization.

REPRODUCTIVE TOXICITY: This material has not been tested as a whole. Zinc chloride has been reported to cause adverse reproductive effects in laboratory animals.

TERATOGENICITY: This material has not been tested as a whole. Zinc chloride has been reported to cause birth defects in laboratory animals.

MUTAGENICITY: This material has not been tested a whole. Zinc chloride and chromium (II) chloride are mutagenic in some test systems.

SYNERGISTIC EFFECTS: There are no chemicals known to cause any additive adverse health effects.

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SECTION 12: ECOLOGICAL INFORMATION

The ecological effects of this product have not been evaluated.

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SECTION 13: DISPOSAL

Dispose in accordance with all local, state, and federal regulations.

RCRA HAZARDOUS WASTE CODES: D002, D007

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SECTION 14: TRANSPORTATION DATA

US DOT SHIPPING NAME: CORROSIVE LIQUID, N.O.S. (HYDROCHLORIC ACID, ZINC CHLORIDE), 8, UN 1760, PG II
DOT LABELS REQUIRED: CORROSIVE
EMERGENCY RESPONSE GUIDE NUMBER: 60

IATA SHIPPING NAME: CORROSIVE LIQUID, N.O.S., (HYDROCHLORIC ACID, ZINC CHLORIDE), UN 1760, PG II
IATA LABELS REQUIRED: CORROSIVE (CARGO AIRCRAFT 1-30 LITERS)

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SECTION 15: OTHER REGULATORY INFORMATION

SARA 311/312: Hazard Categories for SARA Section 311/312 Reporting:
Acute health, chronic health.

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements under SARA Section 313 (40 CFR 372):

Chromium (II) Chloride	7.3% (as Cr)
Hydrochloric Acid	3%
Zinc Chloride	27.4% (as Zn)

CERCLA SECTION 103 REPORTABLE QUANTITY: 8772 lbs (Zinc Chloride 1000 lbs)

CALIFORNIA PROPOSITION 65: This product contains the following substances known to the State of California to cause Cancer and/or Reproductive Harm: None

US TOXIC SUBSTANCES CONTROL ACT: All of the components of this product are listed on the EPA TSCA Inventory.

EUROPEAN INVENTORY OF COMMERCIAL CHEMICAL SUBSTANCES: All of the components of this product are listed on the EINECS Inventory.

CANADIAN WHMIS CLASSIFICATION: Class D-2-B (Toxic Material Causing Other Chronic Effects), Class E (Corrosive Material)

EUROPEAN COMMUNITY LABELING CLASSIFICATION: Corrosive

EUROPEAN COMMUNITY RISK AND SAFETY PHRASES: R34, S2, S26, S28, S7/8

==========

SECTION 16: OTHER INFORMATION

NFPA HAZARD RATING: HEALTH: 3 FIRE: 0 REACTIVITY: 0

DATE OF LATEST MSDS REVISION: 11-18-93
REVISION SUMMARY: Convert MSDS to ANSI Standard Format.

==========

The preceding information is believed to be correct and current as of the date of preparation of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Bacharach, Inc., it is the users obligation to assure safe use of this product.

BACHARACH, INC.
MSDS NO: 99-0006
MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet has been prepared to comply with the EC Directive, Canadian WHMIS and OSHA Hazard Communication Regulations.

==========

BACHARACH, INC.
625 ALPHA DR.
PITTSBURGH, PA 15238

EMERGENCY PHONE: (800) 424-9300 (CHEMTREC)

INFORMATION PHONE: (412) 963-2223

FAX: (412) 963-2091

==========

SECTION 1: IDENTIFICATION

PRODUCT NAME: FLUID, FYRITE, CO2

PRODUCT NUMBER: 11-0057 MSDS NUMBER: 99-0006 REVISION NUMBER: 5

MSDS DATE OF PREPARATION/REVISION: 11-18-93

==========

SECTION 2: COMPOSITION

COMPONENT	CAS#	PERCENTAGE	EXPOSURE LIMITS
Potassium Hydroxide	1310-58-3	26	2 mg/m3 TLV-Ceiling
Water	7732-18-5	71	None Established
Isooctyl Alcohols (C7-9)	68526-83-0	3	50 ppm TLV-TWA skin

Note: The Permissible Exposure Limits (PEL) reported above are the pre-1989 limits that were reinstated by OSHA June 30, 1993 following a decision by the 11th Circuit Court of Appeals. These PELs are those now being enforced by Federal OSHA. Be aware that more restrictive exposure limits may be enforced by some states, agencies or other authorities. The enforced PEL may not be adequate to ensure worker safety, so Bacharach, Inc. recommends that the lowest recommended exposure limit always be observed as reasonable worker protection.

==========

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

Red liquid with a slight unpleasant odor. Corrosive material, liquid causes burns to the eyes and skin. Vapors are irritating and may be harmful. May cause narcosis and other nervous system effects.

N/D=Not Determined 1 N/A=Not Applicable

BACHARACH, INC. MSDS

FLUID, FYRITE, CO2 MSDS NO: 99-0006

ACUTE HEALTH HAZARDS:

EYE CONTACT: May cause chemical burns with permanent blindness.

SKIN CONTACT: May cause chemical burns, severity depends on duration of contact.

INHALATION: May cause eye, mucous membrane and respiratory irritation. Severe overexposures may cause pulmonary edema. Inhalation of isooctyl alcohol may cause headache, dizziness, narcosis and other nervous system effects.

INGESTION: May cause gastrointestinal corrosion, pain, nausea, vomiting, diarrhea, collapse and shock.

CHRONIC HEALTH EFFECTS: Chronic dermatitis may follow repeated contact with alkali solutions.

CARCINOGEN STATUS: None of the components is listed as a carcinogen or potential carcinogen by IARC, NTP or OSHA.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing skin and respiratory conditions may be aggravated by exposure to this material.

SEE SECTION 11 - TOXICOLOGICAL INFORMATION FOR ADDITIONAL DATA

==========

SECTION 4: FIRST AID

EYE CONTACT: Immediately flush with copious amounts of water, at least 20 minutes, lifting the upper and lower lids. Get immediate medical attention.

SKIN CONTACT: Immediately flush with water while removing any contaminated clothing. Continue flushing for 20 minutes. Get medical attention if pain or irritation persists.

INHALATION: If acute overexposure occurs, remove victim to fresh air. Give artificial respiration if needed. Get immediate medical attention.

INGESTION: Do not induce vomiting. Do not give anything by mouth to a person who is unconscious or convulsing. Immediately dilute with 1-2 glasses of water or milk. Get immediate medical attention.

==========

SECTION 5: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: Isooctyl Alcohol - 183 F TEST METHOD: PMCC

AUTOIGNITION TEMPERATURE: N/AV

FLAMMABLE LIMITS: LEL: N/AV UEL: N/AV

EXTINGUISHING MEDIA: Use foam, dry chemical, water spray.

N/D=Not Determined 2 N/A=Not Applicable

BACHARACH, INC. MSDS

FLUID, FYRITE, CO2 MSDS NO: 99-0006

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear NIOSH approved positive pressure self contained breathing apparatus and full protective clothing for all fires involving chemicals.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Isooctyl alcohol has a flash point of 183 F and is insoluble in water. Only a small amount is present (<5%) so only a slight fire hazard exists. The balance is not combustible.

HAZARDOUS COMBUSTION PRODUCTS: Oxides of carbon and potassium.

==========

SECTION 6: ACCIDENTAL RELEASE MEASURES

Wear recommended protective equipment. Dilute spill with water and neutralize with dilute acetic acid. Absorb and place in container for disposal or flush to sewer with water.

==========

SECTION 7: HANDLING AND STORAGE

WORK PRACTICES: Prevent contact with the eyes, skin and clothing. When fluid is used in instrument (Fyrite), do not vent in inverted position or before the fluid has drained from the top well of the Fyrite. Hold the Fyrite away from the face when venting instrument.

SPECIAL PRECAUTIONS: Always change Fyrite fluid in the immediate vicinity of sink with running water available because of the corrosive effect of Fyrite fluid.

STORAGE: Store in a cool, dry place, separate from acid and oxidizer storage. Avoid crushing containers.

==========

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: General ventilation should be adequate.

RESPIRATORY PROTECTION: None required for normal use. Do not inhale vapors.

GLOVES: Rubber or other impervious gloves required when filling Fyrite or performing gas analysis.

EYE PROTECTION: Wear chemical safety goggles and face shield when filling Fyrite or performing gas analysis.

OTHER PROTECTIVE EQUIPMENT: An available source of running water for eye and skin flushing is recommended.

==========

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Red liquid, slight unpleasant odor. Isooctyl alcohol specific gravity is 0.83, KOH solution - >1 No data is available.

pH: 13-14 SPECIFIC GRAVITY: See below
BOILING POINT: >100 C VAPOR PRESSURE: Octanol: 1 mmHg @38C
MELTING POINT: <0 C VAPOR DENSITY: Octanol: 4.5
SOLUBILITY IN WATER: Octanol-insoluble PERCENT VOLATILE: 75%
COEFFICIENT WATER/OIL: N/A

==========

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: N/A

INCOMPATIBILITY: Strong oxidizing agents, acids, aldehydes, monomers and polymerizable esters, alkalyene oxides, halogens, acid anhydrides, metals, chlorinated hydrocarbons.

HAZARDOUS DECOMPOSITION PRODUCTS: Reaction with metals can liberate flammable hydrogen gas. Thermal decomposition may yield oxides of carbon and potassium.

HAZARDOUS POLYMERIZATION: Will not occur.

CONDITIONS TO AVOID: N/A

==========

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY DATA: No LD50 or LC50 data is available for this material or any components.

IRRITANCY DATA: This material is corrosive to tissues.

SENSITIZATION: This material has not been tested as a whole. None of the components has been reported to cause sensitization in humans or animals.

REPRODUCTIVE TOXICITY: This material has not been tested as a whole. None of the components have been reported to cause adverse reproductive effects in animals or humans.

TERATOGENICITY: This material has not been tested as a whole. None of the components have been reported to cause teratogenicity in animals or humans.

MUTAGENICITY: This material has not been tested a whole. None of the components have been reported to be mutagenic.

N/D=Not Determined 4 N/A=Not Applicable

SYNERGISTIC EFFECTS: There are no chemicals known to cause any additive adverse health effects.

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SECTION 12: ECOLOGICAL INFORMATION

The ecological effects of this product have not been evaluated.

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SECTION 13: DISPOSAL

Dispose in accordance with all local, state, and federal regulations.

RCRA HAZARDOUS WASTE CODES: D002

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SECTION 14: TRANSPORTATION DATA

US DOT SHIPPING NAME: POTASSIUM HYDROXIDE SOLUTION, 8, UN 1814, PG II
DOT LABELS REQUIRED: CORROSIVE
EMERGENCY RESPONSE GUIDE NUMBER: 60

IATA SHIPPING NAME: POTASSIUM HYDROXIDE SOLUTION, 8, UN 1814, PG II
IATA LABELS REQUIRED: CORROSIVE (CARGO AIRCRAFT 1-30 LITERS)

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SECTION 15: OTHER REGULATORY INFORMATION

SARA 311/312: Hazard Categories for SARA Section 311/312 Reporting:

Acute health, fire hazard.

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements under SARA Section 313 (40 CFR 372):
None

CERCLA SECTION 103 REPORTABLE QUANTITY: 3846 lbs. (Potassium Hydroxide - 1000 lbs.)

CALIFORNIA PROPOSITION 65: This product contains the following substances known to the State of California to cause Cancer and/or Reproductive Harm: None

US TOXIC SUBSTANCES CONTROL ACT: All of the components of this product are listed on the EPA TSCA Inventory.

EUROPEAN INVENTORY OF COMMERCIAL CHEMICAL SUBSTANCES: All of the components of this product are listed on the EINECS Inventory.

CANADIAN ENVIRONMENTAL PROTECTION ACT: All of the components of this product are listed on the Canadian Domestic Substances List.

CANADIAN WHMIS CLASSIFICATION: Class B-3 (Combustible Liquid), Class D-2-B (Toxic Material Causing Other Chronic Effects), Class E (Corrosive Material)

N/D=Not Determined 5 N/A=Not Applicable

BACHARACH, INC. MSDS

FLUID, FYRITE, CO2 MSDS NO: 99-0006

EUROPEAN COMMUNITY LABELING CLASSIFICATION: Corrosive

EUROPEAN COMMUNITY RISK AND SAFETY PHRASES: R35, S2, S26, S36/37

==========

SECTION 16: OTHER INFORMATION

NFPA HAZARD RATING: HEALTH: 3 FIRE: 1 REACTIVITY: 0

DATE OF LATEST MSDS REVISION: 11-18-93
REVISION SUMMARY: Convert MSDS to ANSI Standard Format.

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The preceding information is believed to be correct and current as of the date of preparation of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Bacharach, Inc., it is the users obligation to assure safe use of this product.

N/D=Not Determined 6 N/A=Not Applicable

□

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
980 South Second St.
Ronkonkoma, NY 11779
Phone: 516-467-0980
Emergency Phone: 516-467-3535

SECTION 1. - - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -

CATALOG #: F15587
NAME: FORMALDEHYDE, 37 WT. % SOLUTION IN WATER

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #: 50-00-0
MF: CH2O
EC NO: 200-001-8

ADDITIONAL INFORMATION

CONTAINS METHYL ALCOHOL, CHEMICAL ABSTRACTS REGISTRY NUMBER 67-56-1.

SYNONYMS

ALDEHYDE FORMIQUE (FRENCH) * ALDEHYD MRAVENCI (CZECH) * ALDEIDE FORMICA (ITALIAN) * BFV * FA * FANNOFORM * FORMALDEHYDE (ACGIH:OSHA) * FORMALDEHYDE, SOLUTIONS, FLAMMABLE (UN1198) (DOT) * FORMALDEHYDE, SOLUTIONS (UN2209) (DOT) * FORMALDEHYD (CZECH, POLISH) * FORMALDEHYDE, GAS * FORMALIN * FORMALIN 40 * FORMALINA (ITALIAN) * FORMALINE (GERMAN) * FORMALIN-LOESUNGEN (GERMAN) * FORMALITH * FORMIC ALDEHYDE * FORMOL * FYDE * IVALON * LYSOFORM * METHALDEHYDE * METHANAL * METHYL ALDEHYDE * METHYLENE OXIDE * MORBICID * NCI-C02799 * OPLOSSINGEN (DUTCH) * OXOMETHANE * OXYMETHYLENE * PARAFORM * RCRA WASTE NUMBER U122 * SUPERLYSOFORM * UN1198 (DOT) * UN2209 (DOT) *

SECTION 3. - - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS

TOXIC
MAY CAUSE CANCER.
MAY CAUSE HERITABLE GENETIC DAMAGE.
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
CAUSES BURNS.
MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
POSSIBLE RISK OF IRREVERSIBLE EFFECTS.
CONTAINS FORMALDEHYDE
POTENTIAL CANCER HAZARD.
READILY ABSORBED THROUGH SKIN.
LACHRYMATOR.
COMBUSTIBLE.
TARGET ORGAN(S):
EYES
KIDNEYS
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.
USE ONLY IN WELL VENTILATED AREAS.
KEEP LOCKED UP AND OUT OF THE REACH OF CHILDREN.

SECTION 4. - - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN IMMEDIATELY.
WASH CONTAMINATED CLOTHING BEFORE REUSE.
DISCARD CONTAMINATED SHOES.

SECTION 5. - - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - - -

EXTINGUISHING MEDIA

WATER MAY BE EFFECTIVE FOR COOLING, BUT MAY NOT EFFECT EXTINGUISHMENT.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.
COMBUSTIBLE LIQUID.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

EVACUATE AREA.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
USE ONLY IN A CHEMICAL FUME HOOD.
SAFETY SHOWER AND EYE BATH.
DO NOT BREATHE VAPOR.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
READILY ABSORBED THROUGH SKIN.
WASH THOROUGHLY AFTER HANDLING.
TOXIC.
CARCINOGEN.
MUTAGEN.
CORROSIVE.
SENSITIZER.
LACHRYMATOR.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR

COLORLESS LIQUID

PHYSICAL PROPERTIES

FLASHPOINT 133 F

010682

56C

EXPLOSION LIMITS IN AIR:
UPPER 73%
LOWER 7%
AUTOIGNITION TEMPERATURE: 572 F 299C
VAPOR PRESSURE: 52MM 37 C
SPECIFIC GRAVITY: 1.083
VAPOR DENSITY: 1.03

SECTION 10. - - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - - -

INCOMPATIBILITIES
INCOMPATIBLE WITH: ANILINE, PHENOL, ISOCYANATES, ANHYDRIDES.
STRONG ACIDS
STRONG BASES
REACTS VIOLENTLY WITH:
STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - - -

ACUTE EFFECTS
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
INHALATION MAY BE FATAL AS A RESULT OF SPASM, INFLAMMATION AND EDEMA OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.
MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS.
EXPOSURE CAN CAUSE:
COUGHING, CHEST PAINS, DIFFICULTY IN BREATHING.
PULMONARY EDEMA. EFFECTS MAY BE DELAYED.
GASTROINTESTINAL DISTURBANCES

CHRONIC EFFECTS
CARCINOGEN.
MAY ALTER GENETIC MATERIAL.
TARGET ORGAN(S):
EYES
KIDNEYS
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: LP8925000
FORMALDEHYDE

IRRITATION DATA

SKN-HMN 150 UG/3D-I MLD	85DKA8 -,127,77
EYE-HMN 4 PPM/5M	IAPWAR 4,79,61
EYE-HMN 1 PPM/6M HSE MLD	AIHAAP 44,463,83
SKN-RBT 2 MG/24H SEV	85JCAE -,264,86
SKN-RBT 540 MG OPEN MLD	UCDS** 4/21/67
SKN-RBT 50 MG/24H MOD	TXAPA9 21,369,72
EYE-RBT 750 UG/24H SEV	85JCAE -,264,86
EYE-RBT 750 UG SEV	AJOPAA 29,1363,46
EYE-RBT 10 MG SEV	TXAPA9 55,501,80

TOXICITY DATA

010683

ORL-WMN LDLO:108 MG/KG	29ZWAE -,328,68
UNR-MAN LDLO:477 MG/KG	85DCAI 2,73,70
ORL-RAT LD50:100 MG/KG	FCTOD7 26,447,88
IHL-RAT LC50:203 MG/M3	GTPZAB 18(2),55,74
SCU-RAT LD50:420 MG/KG	APTOA6 6,299,50
IVN-RAT LD50:87 MG/KG	AEPPAE 221,166,54
ORL-MUS LD50:42 MG/KG	NTIS** AD-A125-539
IHL-MUS LC50:400 MG/M3/2H	85GMAT -,69,82
SCU-MUS LD50:300 MG/KG	APTOA6 6,299,50
SKN-RBT LD50:270 UL/KG	UCDS** 4/21/67
ORL-GPG LD50:260 MG/KG	JIHTAB 23,259,41
IHL-MAM LC50:92 MG/M3	GTPZAB 19(8),37,75

TARGET ORGAN DATA
SENSE ORGANS AND SPECIAL SENSES (OTHER OLFACTION EFFECTS)
SENSE ORGANS AND SPECIAL SENSES (OLFACTION TUMORS)
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (EXCITEMENT)
BEHAVIORAL (AGGRESSION)
LUNGS, THORAX OR RESPIRATION (BRONCHIOLAR CONSTRICTION, INCLUDING ASTHMA)
LUNGS, THORAX OR RESPIRATION (ACUTE PULMONARY EDEMA)
LUNGS, THORAX OR RESPIRATION (RESPIRATORY OBSTRUCTION)
GASTROINTESTINAL (GASTRITIS)
GASTROINTESTINAL (ULCERATION OR BLEEDING FROM STOMACH)
GASTROINTESTINAL (NAUSEA OR VOMITING)
BLOOD (OTHER CHANGES)
SKIN AND APPENDAGES (TUMORS)
PATERNAL EFFECTS (SPERMATOGENESIS)
PATERNAL EFFECTS (TESTES, EPIDIDYMIS, SPERM DUCT)
PATERNAL EFFECTS (PROSTATE, SEMINAL VESICLE, COWPER'S, ACCESSORY GLANDS
PATERNAL EFFECTS (OTHER EFFECTS ON MALE)
EFFECTS ON FERTILITY (MALE FERTILITY INDEX)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CRANIOFACIAL)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (HEPATOBILIARY SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (OTHER DEVELOPMENTAL ABNORMALITIES)
EFFECTS ON NEWBORN (GROWTH STATISTICS)
EFFECTS ON NEWBORN (BIOCHEMICAL AND METABOLIC)
EFFECTS ON NEWBORN (BEHAVIORAL)
EFFECTS ON NEWBORN (OTHER POSTNATAL MEASURES OR EFFECTS)
TUMORIGENIC (CARCINOGENIC BY RTECS CRITERIA)
TUMORIGENIC (EQUIVOCAL TUMORIGENIC AGENT BY RTECS CRITERIA)
TUMORIGENIC (TUMORS AT SITE OF APPLICATION)
BIOCHEMICAL EFFECTS (EFFECT ON INFLAMMATION OR MEDIATION OF INFLAMMATION)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A

010684

CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - - -

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - - -

EUROPEAN INFORMATION

EC INDEX NO: 605-001-00-5

TOXIC

R 45

MAY CAUSE CANCER.

R 46

MAY CAUSE HERITABLE GENETIC DAMAGE.

R 23/24/25

TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

R 34

CAUSES BURNS.

R 42/43

MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

R 40

POSSIBLE RISK OF IRREVERSIBLE EFFECTS.

S 45

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S 36/37/39

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

S 51

USE ONLY IN WELL VENTILATED AREAS.

S 1/2

KEEP LOCKED UP AND OUT OF THE REACH OF CHILDREN.

TLV AND SOURCE

REVISED FORMALDEHYDE OSHA PEL: 8H TWA 0.75 PPM; STEL: 2 PPM.
FOR METHYL ALCOHOL - SKIN:
ACGIH TLV-TWA: 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).
OSHA PEL: 8 H TWA 200 PPM (260 MG/M3); STEL: 250 PPM (310 MG/M3).

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-SUSPECTED HUMAN CARCINOGEN	85INA8	6,664,91
ACGIH TLV-CL 0.3 PPM	85INA8	6,664,91
IARC CANCER REVIEW:ANIMAL SUFFICIENT EVIDENCE	IMEMDT	29,345,82
IARC CANCER REVIEW: ANIMAL SUFFICIENT EVIDENCE	IMEMDT	62,217,95
IARC CANCER REVIEW:HUMAN LIMITED EVIDENCE	IMSUDL	7,211,87
IARC CANCER REVIEW: HUMAN LIMITED EVIDENCE	IMEMDT	62,217,95
IARC CANCER REVIEW:GROUP 2A	IMSUDL	7,211,87
IARC CANCER REVIEW: GROUP 2A	IMEMDT	62,217,95

EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FEREAC 54,7740,89

MSHA STANDARD:AIR-CL 2 PPM (3 MG/M3)
DTLWS* 3,19,73

OSHA PEL (GEN INDU):SEE 1910.1048
CFRGBR 29,1910.1000,94

OSHA PEL (CONSTRUC):SEE CFR 29,1926.1148
CFRGBR 29,1926.55,94
OSHA PEL (FED CONT):CL 5 PPM (6 MG/M3)
CFRGBR 41,50-204.50,94
OEL-ARAB REPUBLIC OF EGYPT:TWA 2 PPM (3 MG/M3) JAN93
OEL-AUSTRALIA:TWA 1 PPM (1.5 MG/M3);STEL 2 PPM (3 MG/M3);CAR JAN93
OEL-BELGIUM:TWA 1 PPM (1.2 MG/M3);STEL 2 PPM (2.5 MG/M3);CAR JAN93
OEL-CZECHOSLOVAKIA:TWA 0.5 MG/M3;STEL 1 MG/M3 JAN93
OEL-DENMARK:STEL 0.3 PPM (0.4 MG/M3);CARCINOGEN JAN93
OEL-FINLAND:STEL 1 PPM (1.3 MG/M3);SKIN JAN93
OEL-FRANCE:STEL 2 PPM (3 MG/M3) JAN93
OEL-GERMANY:TWA 0.5 PPM (0.6 MG/M3);CARCINOGEN JAN93
OEL-HUNGARY:STEL 0.6 MG/M3;CARCINOGEN JAN93
OEL-JAPAN:TWA 0.5 PPM (0.61 MG/M3);CARCINOGEN JAN93
OEL-THE NETHERLANDS:TWA 1 PPM (1.5 MG/M3);STEL 2 PPM (3 MG/M3) JAN93
OEL-THE PHILIPPINES:TWA 5 PPM (6 MG/M3) JAN93
OEL-POLAND:TWA 2 MG/M3 JAN93
OEL-RUSSIA:TWA 0.5 PPM;STEL 0.5 MG/M3;SKIN JAN93
OEL-SWEDEN:TWA 0.5 PPM (0.6 MG/M3);STEL 1 PPM (1.2 MG/M3) JAN93
OEL-SWITZERLAND:TWA 0.5 PPM (0.6 MG/M3);STEL 1 PPM (1.2 MG/M3) JAN93
OEL-THAILAND:TWA 3 PPM;STEL 5 PPM JAN93
OEL-TURKEY:TWA 5 PPM (6 MG/M3) JAN93
OEL-UNITED KINGDOM:TWA 2 PPM (2.5 MG/M3);STEL 2 PPM (2.5 MG/M3) JAN93
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO FORMALDEHYDE-AIR:8H CA TWA 0.016 PPM;CL 0.1 PPM/15M
NIOSH* DHHS #92-100,92
NOHS 1974: HZD M1529; NIS 72; TNF 10311; NOS 67; TNE 66921
NOHS 1974: HZD 33640; NIS 213; TNF 33243; NOS 155; TNE 394660
NOES 1983: HZD M1529; NIS 87; TNF 11309; NOS 69; TNE 207013; TFE 104994
NOES 1983: HZD 33640; NIS 309; TNF 65738; NOS 193; TNE 1329322; TFE 441902
EPA GENETOX PROGRAM 1988, POSITIVE: CARCINOGENICITY-MOUSE/RAT
EPA GENETOX PROGRAM 1988, POSITIVE: D MELANOGASTER-RECIPROCAL TRANSLOCATION
EPA GENETOX PROGRAM 1988, POSITIVE: N CRASSA-REVERSION; E COLI POLA WITHOUT S9
EPA GENETOX PROGRAM 1988, POSITIVE: D MELANOGASTER SEX-LINKED LETHAL
EPA GENETOX PROGRAM 1988, POSITIVE: S CEREVISIAE GENE CONVERSION; S CEREVISIAE-REVERSION
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: IN VITRO UDS-HUMAN FIBROBLAST
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: CHO GENE MUTATION
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
ON EPA IRIS DATABASE
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1995
NIOSH CURRENT INTELLIGENCE BULLETIN 34, APRIL 1981
NIOSH ANALYTICAL METHOD, 1994: ALDEHYDES, SCREENING, 2539
NIOSH ANALYTICAL METHOD, 1994: FORMALDEHYDE BY ON DUST (TEXTILE OR WOOD), 5700
NIOSH ANALYTICAL METHOD, 1994: FORMALDEHYDE BY GC, 2541; BY VIS, 3500
NTP 7TH ANNUAL REPORT ON CARCINOGENS, 1992 : ANTICIPATED TO BE CARCINOGEN
OSHA ANALYTICAL METHOD #ID-102

U.S. INFORMATION

010686

37.0% FORMALDEHYDE 50-00-0
15.0% METHANOL 67-56-1
THESE PRODUCTS ARE SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

SECTION 16. - - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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□

SOLUTIONS DEPARTMENT
MSDS for FORMALIN, 10%, BUFFERED

1 - Site Specific Information

GENERAL STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: 10% BUFFERED FORMALIN

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#
FORMALDEHYDE, 37% SOLUTION	10.0	50-00-0
SODIUM PHOSPHATE MONOBASIC MONOHYDRATE	0.14	10049-21-5
SODIUM HYDROXIDE	0.03	1310-73-2
H2O	89.83	N/A

4 - Section III - Personal Protective Equipment & Hazard Codes

	H	C	R	F
CHEMICALLY RESISTANT CLOTHING, FULL FACE SHIELD, CHEMICALLY RESISTANT GLOVES, FUMEHOOD	3	3	2	2

SPECIAL HAZARD RATING: CORROSIVE, CARCINOGEN

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE
STABILITY: 3 YEARS

Huntington.

CUSTOMER

MATERIAL SAFETY DATA SHEET

MSDS DATE 10/01/91
DATE 12/25/91
PRODUCT NO. 102321
CUSTOMER NO.
INVOICE NO.

SECTION I - IDENTITY

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.	ADDRESS (Number, Street, City, State and Zip Code)
Huntington Laboratories, Inc.	219/356-8100	970 East Tipton Street, Huntington, Indiana 46750

CHEMICAL NAME AND SYNONYMS: N/A
TRADE NAME AND SYNONYMS: ASEPTI-STERYL 28
CHEMICAL FAMILY: SURFACTANT SOLUTION
FORMULA: N/A

SECTION II - HAZARDOUS INGREDIENTS

CAS NO.	PRINCIPAL HAZARDOUS COMPONENTS	%	ACGIH TLV	OSHA PEL
111-30-8	GLUTARALDEHYDE	2	0.2 PPM	0.2 PPM

SECTION III PHYSICAL DATA

APPEARANCE AND ODOR: CLEAR LIQUID (ACTIVATES BLUE), DISINFECTANT ODOR
pH VALUE: 3.2-4.8
SPECIFIC GRAVITY (H2O=1): 1.01
PERCENT, VOLATILE BY VOLUME (%): 95
REACTIVITY IN WATER: NONE
EVAPORATION RATE (_____ = 1): UNK
BOILING POINT (°F.): 216
SOLUBILITY IN WATER: 100%
VAPOR DENSITY (AIR=1): UNK
VAPOR PRESSURE (mm Hg.): 20.07

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT METHOD USED: N/A
FLAMMABLE LIMITS: UPPER N/A LOWER N/A
AUTO-IGNITION TEMP: N/A
SPECIAL FIRE FIGHTING PROCEDURES: NONE
CONT
EXTINGUISHING MEDIA: AS FOR SURROUNDING FIRE.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

SECTION V - PHYSICAL HAZARDS

STABILITY: UNSTABLE [ ] STABLE [X]
CONDITIONS TO AVOID: NONE
INCOMPATABILITY (MATERIALS TO AVOID): NONE
HAZARDOUS DECOMPOSITION PRODUCTS: NONE
HAZARDOUS POLYMERIZATION: MAY OCCUR [ ] WILL NOT OCCUR [X]
CONDITIONS TO AVOID: NONE

SECTION VI - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: SEE SEC II
EFFECTS OF OVEREXPOSURE:
1. INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION.
2. EYES: CAUSES BURNS.
3. SKIN: CAUSES IRRITATION. MAY BE ABSORBED THROUGH SKIN.
4. INGESTION: HARMFUL. CORROSIVE TO TISSUE.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN	YES	NO	I.A.R.C. MONOGRAPHS	YES	NO	OSHA	YES	NO
• NATIONAL TOXICOLOGY • PROGRAM		X			X			X

EMERGENCY AND FIRST AID PROCEDURES:
1. INHALATION: MOVE TO FRESH AIR.
2. EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN IMMEDIATELY.
3. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER. REMOVE CONTAMINATED CLOTHING AND WASH BEFORE REUSE. CALL A PHYSICIAN IF IRRITATION PERSISTS.
4. INGESTION: PROMPTLY DRINK A LARGE QUANTITY OF WATER. AVOID ALCOHOL. CALL A PHYSICIAN IMMEDIATELY. NOTE TO PHYSICIAN: PROBABLE MUCOSAL DAMAGE MAY CONTRAINDICATE THE USE OF GASTRIC LAVAGE. MEASURES AGAINST CIRCULATORY SHOCK, RESPIRATORY DEPRESSION, AND CONVULSIONS MAY BE NEEDED.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CONTAIN SPILL. DO NOT CONTAMINATE FOOD, FEED, OR WATER.
WASTE DISPOSAL METHOD: OPEN DUMPING IS PROHIBITED. DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE
VENTILATION: LOCAL EXHAUST [ ] MECH [X] SPECIAL [ ] OTHER [ ]
PROTECTIVE GLOVES: RUBBER
EYE PROTECTION: GOGGLES
OTHER: FACE SHIELD OPTIONAL

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTION TO BE TAKEN IN HANDLING AND STORING: FOLLOW LABEL DIRECTIONS. KEEP CONTAINER CLOSED WHEN NOT IN USE. WASH THOROUGHLY AFTER USE. TRIPLE RINSE EMPTY CONTAINERS THOROUGHLY WITH WATER BEFORE DISPOSAL. DO NOT REUSE EMPTY CONTAINERS.

OTHER PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

Huntington Laboratories, Inc.

970 East Tipton Street, Huntington, IN 46750 219/356-8100

FAX COVER SHEET

FAX NUMBER 219/356-6485

URGENT!

URGENT!

DATE May 6-96 TIME

NUMBER 818-503-6857

TO THE ATTENTION OF Oscar Pinlac

SENT TO (COMPANY NAME) Kaiser Reg. Lab

MESSAGE SENT FROM Judy Turgeson, Resource Center

COMMENTS OR SPECIAL INSTRUCTIONS:

Huntington.
The Total Solutions Company

PAGE 1 OF 3

010690

CALL FOR MSDS

ASEPTI-steryl 14 and 28 Solutions

Mixing Instructions:

In order to ensure complete mixing of the Activator in ASEPTI-steryl 14 or ASEPTI-steryl 28 solution, we suggest the following procedures:

A) Add the contents of the attached vial of Activator to the one (1) gallon container of ASEPTI-steryl 14 or ASEPTI-steryl 28 solution.

B) Wait 15 minutes.

C) Shake the gallon container of ASEPTI-steryl 14 or ASEPTI-steryl 28 for 30 seconds. Activated solution will turn blue.

D) Pour activated ASEPTI-steryl 14 or ASEPTI-steryl 28 into tray, tank, etc.

REMOVING BLUE STAINING

The blue dye used in ASEPTI-steryl 14 and ASEPTI-steryl 28 has been known to occasionally discolor plastics; if this occurs, mix a 50:50 solution of water and alcohol (Methanol, Ethanol or Isopropyl Alcohol). Soak the stained item, brush and then rinse. This should remove any staining.

Huntington®
The Total Solutions Company

For product information call toll free: 1-800-537-5724 In Canada call: 1-800-465-5227 (LABS)
HUNTINGTON LABORATORIES, INC., Huntington, Indiana 46750
Lansdale, PA 19446 • Dallas, TX 75227 • Denver, CO 80211 • Oakland, CA 94621 • Antioch, IL 60002 • Bramalea, Ontario, Canada L6T 1E3

010691

HL-12024-012495

Huntington.

CUSTOMER

MATERIAL SAFETY DATA SHEET

MSDS DATE 10/01/91
PRODUCT NO. 102320
DATE 12/25/91
CUSTOMER NO. _____ INVOICE NO _____

SECTION I - IDENTITY

MANUFACTURER'S NAME	EMERGENCY TELEPHONE NO.	ADDRESS (Number, Street, City, State and Zip Code)
Huntington Laboratories, Inc.	219/356-8100	970 East Tipton Street, Huntington, Indiana 46750

CHEMICAL NAME AND SYNONYMS: N/A
TRADE NAME AND SYNONYMS: ASEPTI-STERYL 14
CHEMICAL FAMILY: SURFACTANT SOLUTION
FORMULA: N/A

SECTION II - HAZARDOUS INGREDIENTS

CAS NO.	PRINCIPAL HAZARDOUS COMPONENTS	%	ACGIH TLV	OSHA PEL
111-30-8	GLUTARALDEHYDE	2	0.2 PPM	0.2 PPM

SECTION III PHYSICAL DATA

APPEARANCE AND ODOR: CLEAR LIQUID (ACTIVATES BLUE), DISINFECTANT ODOR
pH VALUE: 3.2-4.8
SPECIFIC GRAVITY (H_2O=1): 1.01
PERCENT, VOLATILE BY VOLUME (%): 95
REACTIVITY IN WATER: NONE
EVAPORATION RATE (_____ = 1): UNK
BOILING POINT (°F.): 216
SOLUBILITY IN WATER: 100%
VAPOR DENSITY (AIR=1): UNK
VAPOR PRESSURE (mm Hg.): 20.07

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT METHOD USED: N/A
FLAMMABLE LIMITS: UPPER N/A LOWER N/A
AUTO-IGNITION TEMP.: N/A
SPECIAL FIRE FIGHTING PROCEDURES: NONE
CONT:
EXTINGUISHING MEDIA: AS FOR SURROUNDING FIRE.
UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

SECTION V - PHYSICAL HAZARDS

STABILITY: UNSTABLE [ ] STABLE [X]
CONDITIONS TO AVOID: NONE
INCOMPATABILITY (MATERIALS TO AVOID): NONE
HAZARDOUS DECOMPOSITION PRODUCTS: NONE
HAZARDOUS POLYMERIZATION: MAY OCCUR [ ] WILL NOT OCCUR [X]
CONDITIONS TO AVOID: NONE

SECTION VI - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: SEE SEC II
EFFECTS OF OVEREXPOSURE:
1. INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION.
2. EYES: CAUSES BURNS.
3. SKIN: CAUSES IRRITATION. MAY BE ABSORBED THROUGH SKIN.
4. INGESTION: HARMFUL. CORROSIVE TO TISSUE.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN	YES	NO	I.A.R.C MONOGRAPHS	YES	NO	OSHA	YES	NO
• NATIONAL TOXICOLOGY • PROGRAM		X			X			X

EMERGENCY AND FIRST AID PROCEDURES:
1. INHALATION: MOVE TO FRESH AIR.
2. EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN IMMEDIATELY.
3. SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER. REMOVE CONTAMINATED CLOTHING AND WASH BEFORE REUSE. CALL A PHYSICIAN IF IRRITATION PERSISTS.
4. INGESTION: PROMPTLY DRINK A LARGE QUANTITY OF WATER. AVOID ALCOHOL. CALL A PHYSICIAN IMMEDIATELY. NOTE TO PHYSICIAN: PROBABLE MUCOSAL DAMAGE MAY CONTRAINDICATE THE USE OF GASTRIC LAVAGE. MEASURES AGAINST CIRCULATORY SHOCK, RESPIRATORY DEPRESSION, AND CONVULSIONS MAY BE NEEDED.

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CONTAIN SPILL. DO NOT CONTAMINATE FOOD, FEED, OR WATER.
WASTE DISPOSAL METHOD: OPEN DUMPING IS PROHIBITED. DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE
VENTILATION: LOCAL EXHAUST [ ] MECH [X] SPECIAL [ ] OTHER [ ]
PROTECTIVE GLOVES: RUBBER
EYE PROTECTION: GOGGLES
OTHER: FACE SHIELD OPTIONAL

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTION TO BE TAKEN IN HANDLING AND STORING: FOLLOW LABEL DIRECTIONS. KEEP CONTAINER CLOSED WHEN NOT IN USE. WASH THOROUGHLY AFTER USE. TRIPLE RINSE EMPTY CONTAINERS THOROUGHLY WITH WATER BEFORE DISPOSAL. DO NOT REUSE EMPTY CONTAINERS.

OTHER PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026
Medical Calls from Outside of the USA: 612 292 4064 (USA)

ECOLAB PROFESSIONAL PRODUCTS
DIVISION OF ECOLAB INC.
Ecolab Center, ST. PAUL, MN 55102

For Product Information,
Call: 1-800-247-5362
Date of Issue: May 6, 1997

1.0 IDENTIFICATION /

1.1 Product Name: CIDA-STERYL 28 (HUNTINGTON)
1.2 Product Type: Glutaraldehyde solution
1.3 Hazard Rating: Health - 2 Fire - 0 Reactivity - 0

++ SARA 313 Toxic Chemicals, If Present, Are Preceded by "#" ++

2.0 HAZARDOUS COMPONENTS /

		%	PEL (mg/m3)	TWA (mg/m3)
2.1 Glutaraldehyde (skin)	111-30-8	2	0.82 C	*

*Supplier recommends 0.41 mg/m3 as ceiling limit.

STEL = 15 Minute Average
TWA = ACGIH 8 Hour Average
PEL = OSHA 8 Hour Average in Air
C = Ceiling Limit in Air; Do Not Exceed

3.0 PHYSICAL DATA /

3.1 Appearance: Clear liquid; activates blue
3.2 Solubility in Water: Mixes with water in all proportions.
3.3 pH: 3.2 - 4.8 (100%)
3.4 Initial Boiling Point: >212 deg F
3.5 Specific Gravity: 1.01

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Product does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of handling.
5.2 Conditions to Avoid: Do not mix with anything but water.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Dike or dam large spills. Recover, pump to containers or soak up on inert absorbent. Flush residue to sewer with plenty of water.
6.2 Waste Disposal: Triple rinse and dispose of empty container; do not reuse.

7.0 HEALTH HAZARD DATA / DANGER

7.1 Effects of Overexposure to Concentrate:
Skin and Eyes: Can cause severe irritation, possible chemical burns.
If Swallowed: Harmful. Can cause chemical burns of mouth, throat and stomach.
If Inhaled: Can cause irritation of mouth, throat and airways, especially for sensitive individuals.

8.0 FIRST AID /

8.1 Eyes: Flush at once with cool running water. Remove contact lenses. Holding eyelids apart, continue flushing for 15 minutes.
8.2 Skin: Flush skin with cool water; then wash thoroughly with soap and water. Wash contaminated clothing well before reuse.
8.3 If Swallowed: Rinse mouth; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Avoid alcohol.
8.4 If Inhaled: If affected, move to fresh air.

IN CASE OF EYE CONTACT, OR

IF IRRITATION OR DISCOMFORT PERSISTS, CALL A PHYSICIAN.

9.0 PROTECTIVE MEASURES /

9.1 CONCENTRATE:
Eyes: Eye protection is recommended.
Skin: Use any industrial rubber glove. Wash thoroughly after use.

10.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 Not DOT regulated
10.2 Purpose of 05/06/97 edition: First issue in Ecolab format

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: GLYCEROL, ANHYDROUS
COMMON SYNONYMS: 1,2,3-PROPANETRIOL; GLYCERIN; GLYCYL ALCOHOL
CHEMICAL FAMILY: CARBOHYDRATES AND POLYSACCHARIDES
FORMULA: HOCH2CHOHCH2OH
FORMULA WT.: 92.10
CAS NO.: 56-81-5
NIOSH/RTECS NO.: MA8050000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: M778,2135,4043,2136,2141

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #07

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	1	SLIGHT
REACTIVITY	-	0	NONE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

CAUTION

MAY CAUSE IRRITATION. MAY BE HARMFUL IF SWALLOWED.
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER

2 - PRODUCT IDENTIFICATION (continued)

HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
GLYCEROL, ANHYDROUS	56-81-5	90-100	10 MG/M	10 MG/M

4 - PHYSICAL DATA

BOILING POINT: 290 C (554 F) (AT 760 MM HG)

MELTING POINT: 18 C (64 F) (AT 760 MM HG)

SPECIFIC GRAVITY: 1.26 (H2O=1)

SOLUBILITY(H20): COMPLETE (100%)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

VAPOR PRESSURE (MMHG): <0.1 (20 C)

VAPOR DENSITY (AIR=1): 3.1

EVAPORATION RATE: N/A

% VOLATILES BY VOLUME: 0 (21 C)

PHYSICAL STATE: LIQUID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): 198 C (390 F) NFPA 704M RATING: 1-1-0

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - 0.9 %

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

UNUSUAL FIRE & EXPLOSION HAZARDS
CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE OR EXPLOSION.

TOXIC GASES PRODUCED
CARBON MONOXIDE, CARBON DIOXIDE, ACROLEIN

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 10 MG/M

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 10 MG/M

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR GLYCEROL, ANHYDROUS	12.6 G/KG
INTRAPERITONEAL MOUSE LD50 FOR GLYCEROL, ANHYDROUS	63 MG/KG
SUBCUTANEOUS RAT LD50 FOR GLYCEROL, ANHYDROUS	100 MG/KG
INTRAVENOUS RAT LD50 FOR GLYCEROL, ANHYDROUS	5566 MG/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

6 - HEALTH HAZARD DATA (continued)

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: COUGHING, DIFFICULT BREATHING

SKIN CONTACT: IRRITATION, PROLONGED CONTACT MAY CAUSE DERMATITIS

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: HEADACHE, NAUSEA, VOMITING, GASTROINTESTINAL IRRITATION, CONVULSIONS, UNCONSCIOUSNESS

CHRONIC EFFECTS: NONE IDENTIFIED

'ARGET ORGANS
EYES, SKIN, MUCOUS MEMBRANES

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
EYE CONTACT, SKIN CONTACT, INHALATION, INGESTION

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

6 - HEALTH HAZARD DATA (continued)

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE IDENTIFIED

INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG BASES

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, ACROLEIN

- SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. TAKE UP WITH SAND OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO CONTAINER FOR LATER DISPOSAL. FLUSH SPILL AREA WITH WATER.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS ABOVE 10 MG/M , A DUST/MIST RESPIRATOR IS RECOMMENDED.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT (continued)

EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, APRON, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA. ISOLATE FROM INCOMPATIBLE MATERIALS.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

NTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 15209000000

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

ISOLYSER
LTS
LIQUID TREATMENT SYSTEM™

MATERIAL SAFETY
DATA SHEET
ISOLYSER COMPANY, INC.
4320 International Blvd.
Norcross, Georgia 30093

MEDICAL EMERGENCIES:
(404)381-7566
MARK HUGHES,
SAFETY OFFICER

CHEMTREC ASSISTANCE:
(800)424-9300

SECTION I — PRODUCT IDENTIFICATION

PRODUCT NAME:	LTS 1200, LTS 1250, LTS 2000, LTS 3000, LTS 3100, LTS 13000, LTS 22000, LTS 30000, LTS 60000
SYNONYM:	None
CHEMICAL FAMILY:	Polysaccharide with substituted phenolic derivative disinfectant
FORMULA:	Formulated Mixture
CAS NUMBER:	None Assigned
DOT PROPER SHIPPING NAME:	Disinfectant, solid
DOT HAZARD CLASS:	Non-Hazardous
UN/NA NUMBER:	None Assigned

SECTION II — HEALTH SAFETY ALERT

CAUTION: May cause eye or skin irritation. Dust may be irritating if inhaled. Surfaces subject to spills or dusting may become slippery when wet. Avoid prolonged or repeated contact with powder and solutions. Do not use this product until MSDS has been read and understood.

SECTION III — HEALTH HAZARD INFORMATION

EYE AND SKIN: Direct contact with powder may cause moderate to severe irritation. Contact with in-use dilutions may produce mild irritation.

INHALATION: Powder may produce a drying and irritation of the nose, throat and airways following prolonged or heavy exposure.

INGESTION: Nausea, vomiting, diarrhea may occur following ingestion of the powder or in-use dilutions. SEE SECTION XII — COMMENTS.

SECTION IV — EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Immediately flush with large amounts of water for at least 15 minutes. Do not attempt to neutralize with chemical agents. If irritation persists, seek medical aid.

SKIN CONTACT: Wipe or wash material from skin. Wash contaminated clothing before reuse. See a physician if irritation develops.

INHALATION: Remove from exposure. If breathing is stopped or difficult, administer artificial respiration and oxygen as necessary. Seek medical aid.

INGESTION: Give 1-2 glasses of milk or water to victim if conscious and alert. Induce vomiting or give 1-2 oz. (30-60g) of activated charcoal in water if victim is conscious and alert. If vomiting occurs, repeat treatment. Do not attempt to give anything by mouth to an unconscious person. Seek medical aid.

SECTION V — FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT & METHOD: Not Applicable **AUTOIGNITION TEMP:** Not Determined

FLAMMABLE LIMITS (%VOLUME/AIR) **LOWER:** Not Applicable **UPPER:** Not Applicable

EXTINGUISHING MEDIA: Water spray; dry chemical, foam, carbon dioxide, halon.

FIRE-FIGHTING PROCEDURES: Use self-contained breathing apparatus for fires involving large amounts (cartons) of product.

FIRE AND EXPLOSION HAZARDS: A basic raw material is cellulose derived and may burn if the dry powder is exposed to flame or heat at or above 500°F. Combustion may evolve carbon monoxide and dioxide or very small amounts of hydrogen fluoride and chloride or other fluorine or chlorine compounds.

SECTION VI — SPILL, LEAK AND DISPOSAL INFORMATION

SPILL OR LEAK PROCEDURES: Sweep up spilled powder for use disposal. Take up working solutions with additional LTS. Wear eye and skin protection when cleaning up spills. See Section VII.

WASTE DISPOSAL: Contact manufacturer. All waste disposal must be done in accordance with Federal, State and Local regulations.

SECTION IV — EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Immediately flush with large amounts of water for at least 15 minutes. Do not attempt to neutralize with chemical agents. If irritation persists, seek medical aid.

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WASTE DISPOSAL: Contact manufacturer. All waste disposal must be done in accordance with Federal, State and Local regulations.

SECTION VII — RECOMMENDED OCCUPATIONAL EXPOSURE LIMIT/HAZARDOUS INGREDIENTS

EXPOSURE LIMIT (Product): None Established. See Hazardous Ingredients Section.

HAZARDOUS INGREDIENTS	CAS NO.	PERCENT	EXPOSURE LIMIT (PEL)
Ortho-benzyl-p-chlorophenol	120-32-1	< 2%	None Established
or			
Sodium ortho-phenylphenate, tetrahydrate	6152-33-6	< 2%	None Established
Sodium Carbonate	497-19-8	< 2%	None Established
Trisodium phosphate	7601-54-9	< 2%	None Established

Identity of specific components of this Mixture are proprietary.

SECTION VIII — PERSONAL PROTECTION INFORMATION

EYE PROTECTION: Safety Glasses

SKIN PROTECTION: Impervious Gloves

RESPIRATORY PROTECTION: None required under normal use conditions.

VENTILATION: Special ventilation is not required for normal use.

SECTION IX — PERSONAL HANDLING INSTRUCTIONS

HANDLING: No special handling required. Avoid prolonged, excessive or repeated skin contact or inhalation. Avoid eye contact.

STORAGE: Keep away from sparks and flame. Avoid accumulating dust. Avoid suspending dust in air. This product may react with oxidizing agents and should not be stored near such materials.

OTHER: Do not take internally. Wash exposed areas promptly and thoroughly after contact and before eating, drinking, use of tobacco products, or use of restrooms.

SECTION VII — RECOMMENDED OCCUPATIONAL EXPOSURE LIMIT/HAZARDOUS INGREDIENTS

EXPOSURE LIMIT (Product): None Established. See Hazardous Ingredients Section.

HAZARDOUS INGREDIENTS	CAS NO.	PERCENT	EXPOSURE LIMIT ppm	EXPOSURE LIMIT mg/m^3
Ortho-benzyl-p-chlorophenol	120-32-1	< 5%	None Established	
or				
Ortho-phenylphenol	6152-33-6	< 5%	None Established	

Identity of specific components of this Mixture are proprietary.

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OTHER: Do not take internally. Wash exposed areas promptly and thoroughly after contact and before eating, drinking, use of tobacco products, or use of restrooms.

SECTION X — REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY: Material stable but can combust.

INCOMPATIBILITY: Oxidizing agents, strong acids or alkali.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, fluorine and/or chlorine-containing compounds.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: None.

SECTION XI — PHYSICAL DATA

BOILING POINT:	Not Applicable	**SPECIFIC GRAVITY:**	0.67
MELTING POINT:	Not Applicable	**% VOLATILE BY VOL.:**	< 1.0
VAPOR PRESSURE:	Not Applicable	**EVAPORATION RATE (ETHER = 1):**	Not Applicable
VAPOR DENSITY:	Not Applicable	**VISCOSITY:**	Not Applicable
SOLUBILITY:	Insoluble in water.	**pH:**	5.9
APPEARANCE/ODOR:	Odor-free, free-flowing tan powder beads.		

SECTION XII — COMMENTS

Persons with a history of disease or illness involving the skin, eyes, respiratory tract, kidney, bladder or liver may be at greater risk of developing adverse health effects from exposure to this product.

No known ingredients which occur at greater than 0.1% are listed as carcinogens by the IARC Monographs on the Evaluation of the Carcinogenic Risk to Humans, the NTP Annual Report on Carcinogens, or OSHA 29 CFR 1910.1101-1047 Subpart Z Toxic and Hazardous Substances.

Do not wear contact lens without proper eye protection when using this product.

ISOLYSER and LTS are registered trademarks of Isolyser Company, Inc.

NOTICE: While the information and recommendations set forth herein are believed to be accurate as of the date hereof, ISOLYSER Company makes no warranty with respect thereto and disclaims all liability from reliance thereon.

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CONDITIONS CONTRIBUTING TO INSTABILITY: Material stable but can combust.

INCOMPATIBILITY: Oxidizing agents, strong acids or alkali.

HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, fluorine and/or chlorine-containing compounds.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: None.

SECTION XI — PHYSICAL DATA

BOILING POINT:	Not Applicable	**SPECIFIC GRAVITY:**	Red Label - 0.58 Blue Label- 0.67
MELTING POINT:	Not Applicable	**% VOLATILE BY VOL.:**	< 1.0
VAPOR PRESSURE:	Not Applicable	**EVAPORATION RATE (ETHER = 1):**	Not Applicable
VAPOR DENSITY:	Not Applicable	**VISCOSITY:**	Not Applicable
SOLUBILITY:	Insoluble in water.	**pH:**	S - 7.5 in water.
APPEARANCE/ODOR:	Free-flowing crystalline to granular tan powder.		

SECTION XII — COMMENTS

Persons with a history of disease or illness involving the skin, eyes, respiratory tract, kidney, bladder or liver may be at greater risk of developing adverse health effects from exposure to this product.

No known ingredients which occur at greater than 0.1% are listed as carcinogens by the IARC Monographs on the Evaluation of the Carcinogenic Risk to Humans, the NTP Annual Report on Carcinogens, or OSHA 29 CFR 1910.1101-1047 Subpart Z Toxic and Hazardous Substances.

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ISOLYSER
LTS-SPILL KITS
LIQUID TREATMENT SYSTEM®

MATERIAL SAFETY
DATA SHEET
ISOLYSER COMPANY, INC.
4320 International Blvd.
Norcross, Georgia 30093

MEDICAL EMERGENCIES:
(404)381-7566
MARK HUGHES,
SAFETY OFFICER

CHEMTREC ASSISTANCE:
(800)424-9300

SECTION I — PRODUCT IDENTIFICATION

PRODUCT NAME:	LTS 500, LTS 1200, LTS 2000, LTS 3000 with Lot Numbers prior to and including 056.92.1; and LTS 500SK, LTS 1000SK, LTS 2000SK, LTS 3000SK; and LTS 13000, LTS 60000
SYNONYM:	None
CHEMICAL FAMILY:	Substituted polysaccharide with phenolic derivatives
FORMULA:	Formulated Mixture
CAS NUMBER:	None Assigned
DOT PROPER SHIPPING NAME:	Sanitizer, solid
DOT HAZARD CLASS:	Non-Hazardous
UN/NA NUMBER:	None Assigned

SECTION II — HEALTH SAFETY ALERT

CAUTION: May cause eye or skin irritation. Dust may be irritating if inhaled. Surfaces subject to spills or dusting may become slippery when wet. Avoid prolonged or repeated contact with powder and solutions. Do not use this product until MSDS has been read and understood.

SECTION III — HEALTH HAZARD INFORMATION

EYE AND SKIN: Direct contact with powder may cause moderate to severe irritation. Contact with in-use dilutions may produce mild irritation.

INHALATION: Powder may produce a drying and irritation of the nose, throat and airways following prolonged or heavy exposure.

INGESTION: Nausea, vomiting, diarrhea may occur following ingestion of the powder or in-use dilutions. SEE SECTION XII — COMMENTS.

Burdick & Jackson, Inc.
1953 South Harvey Street
Muskegon, MI 49442 USA

MATERIAL SAFETY DATA SHEET

Methanol

Revision Date: October, 1995
Revision No: 2

Information/Emergency Telephone Number	616.726.3171
Chemtrec Telephone Number	800.424.9300
Canadian Emergency Telephone Number	613.996.6666

I. Identification

Chemical Name:	Methanol	Molecular Weight:	32.04
Chemical Family:	Alcohol	Formula:	CH_4O
Synonyms:	Carbinol, Methyl Alcohol, Wood Alcohol		
DOT Proper Shipping Name:	Methanol		
DOT Hazard Class:	Flammable Liquid, Hazard Class 3, P.G. II		
DOT Identification Number:	UN1230	CAS Number:	67-56-1

II. Physical and Chemical Data

Boiling Point, 760 mm Hg:	64.7° C	Freezing Point:	-97.7° C	Evaporation Rate:	(BuAc=1) ca 5
Vapor Pressure at 20° C:	97 mm Hg	Vapor Density (air=1):	1.11	Solubility in Water:	@ 20° C complete
% Volatiles by Volume:	ca 100	Specific Gravity (H_2O=1):	@ 20° C 0.792	Stability:	Stable

Hazardous Polymerization:	Not expected to occur.
Appearance and Odor:	A clear, colorless liquid with a slight alcoholic odor.
Conditions to Avoid:	Heat, sparks, open flame, open containers, and poor ventilation.
Materials to Avoid:	Strong oxidizing agents and reactive metals which will displace hydrogen.
Hazardous Decomposition Products:	Incomplete combustion can generate carbon monoxide and other toxic vapors such as formaldehyde.

III. Fire and Explosion Hazard Data

Flash Point (test method):	11° C (Tag closed cup)	Auto Ignition Temperature:	385° C
Flammable Limits in Air % by Volume: Lower Limit	6.0	Upper Limit:	36.5

Unusual Fire and Explosion Hazards:	May burn with an invisible flame. Mixtures with water as low as 21% by volume are still flammable (flash point below 37.8° C). Under some circumstances can corrode certain metals, including aluminum and zinc, and generate hydrogen gas.
Extinguishing Media:	Carbon dioxide, dry chemical, alcohol foam, water mist, or fog.
Special Fire Fighting Procedures:	Wear full protective clothing and self-contained breathing apparatus. Heat will build pressure an may rupture closed storage containers. Keep fire-exposed containers cool with water spray.

NFPA Health **1**, Fire **3**, React.**0**, Spec. **0**

IV. Hazardous Components

Methanol	Wt. % ca 100	TWA	200 ppm (skin)	CAS No.	67-56-1

Burdick & Jackson's Disclaimer: The information and recommendations presented in this Material Safety Data Sheet are based on sources believed to be reliable on the date hereof. Burdick & Jackson makes no representation on its completeness or accuracy. It is the user's responsibility to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. No representations or warranties, either express or implied, of merchantability or fitness for a particular purpose or of any other nature are made with respect to the information provided in this Material Safety Data Sheet or to the product to which such information refers. Burdick & Jackson neither assumes nor authorizes any other person to assume for it, any other or additional liability or responsibility resulting from the use of, or reliance upon, this information.

V. Health Hazards

Occupational Exposure Limits

OSHA	TWA	200 ppm (skin)
	STEL	250 ppm
	Ceiling	not listed
ACGIH	TWA	200 ppm (skin)
	STEL/Ceiling	250 ppm
NIOSH	TWA	200 ppm (skin)
	STEL	250 ppm

Concentration Immediately Dangerous to Health

OSHA/NIOSH	25,000 ppm

Odor Threshold

NSC	10 ppm
NIOSH	2,000 ppm

Carcinogenic Data

Methanol is not listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.

Primary Routes of Entry

Methanol may exert its effects through inhalation, skin absorption, and ingestion.

Industrial Exposure: Route of Exposure/Signs and Symptoms

Inhalation: Exposure can cause drowsiness and intoxication, headache, visual disturbance leading to blindness, coughing and shortness of breath, collapse and death at high concentrations.

Eye Contact: Liquid and can cause moderate burning, watering, swelling, and redness; high vapor concentration (greater than 2,000 ppm) may cause same symptoms .

Skin Contact: This substance may be absorbed through intact skin and produce toxic effects. Extensive, repeated and/or prolonged skin contact can cause burning, itching, redness, or blisters.

Ingestion: Causes burning of the gastrointestinal tract and toxic effects. Swallowing more than 2 ounces of methanol can cause death.

Effects of Overexposure

Mild poisoning is characterized by fatigue, nausea, headache, and delayed visual blurring. Moderate intoxication results in severe depression. Temporary or permanent blindness may follow in 2-6 days. In severe poisoning, symptoms progress to rapid, shallow respiration, cyanosis, coma, hypotension, dilated pupils, and visual disturbance. Death may result from respiratory failure.

Medical Condition Aggravated by Exposure

Preclude from exposure those individuals with diseases of eyes, liver, kidneys, and lungs.

Emergency First Aid

Inhalation: Immediately remove to fresh air. If not breathing, administer mouth-to-mouth rescue breathing. If there is no pulse, administer cardiopulmonary resuscitation (CPR). Contact physician immediately.

Eye Contact: Rinse with copious amounts of water for at least 15 minutes. Get emergency medical assistance.

Skin Contact: Flush thoroughly for at least 15 minutes. Wash affected skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before re-use, and discard contaminated shoes. Get emergency medical assistance.

Ingestion: Call local Poison Control Center for assistance. Contact physician immediately. Never induce vomiting or give anything by mouth to a victim unconscious or having convulsions.

Note to Physician

In case of ingestion or massive inhalation, observe victim as an inpatient because slow metabolism causes a latent period of 24 hours between exposure and acidosis and blindness.

VI. Safety Measures and Equipment

Ventilation: Adequate ventilation is required to protect personnel from exposure to chemical vapors exceeding the PEL and to minimize fire hazards. The choice of ventilation equipment, either local or general, will depend on the conditions of use, quantity of material, and other operating parameters.

Respiratory: Use approved respirator equipment. Follow NIOSH and equipment manufacturer's recommendations to determine appropriate equipment (air-purifying, air-supplied, or self-contained breathing apparatus).

Eyes: Safety glasses are considered minimum protection. Goggles or face shield may be necessary depending on quantity of material and conditions of use.

Skin: Protective gloves and clothing are recommended. The choice of material must be based on chemical resistance and other user requirements. Generally, neoprene, nitrile rubber, or rubber offers acceptable chemical resistance. Individuals who are acutely and specifically sensitive to Methanol may require additional protective equipment.

Storage: Methanol should be protected from temperature extremes and direct sunlight. Proper storage of Methanol must be determined based on other materials stored and their hazards and potential chemical incompatibility. In general, Methanol should be stored in an acceptably protected and secure flammable liquid storage room.

Other: Emergency eyewash fountains and safety showers should be available in the vicinity of any potential exposure. Ground and bond metal containers to minimize static sparks.

VII. Spill and Disposal Data

Spill Control: Protect from ignition. Wear protective clothing and use approved respirator equipment. Absorb spilled material in an absorbent recommended for solvent spills and remove to a safe location for disposal by approved methods. If released to the environment, comply with all regulatory notification requirements. CERCLA Reportable Quantity: 5,000 pounds.

Waste Disposal: Dispose of Methanol as an EPA hazardous waste. Contact state environmental agency for listing of licensed hazardous waste disposal facilities and applicable regulations. Hazardous waste number: U154 (ignitable); F003 (ignitable).

Hazard Classification	
Immediate Health:	Yes
Delayed Health:	Yes
Fire:	Yes
Sudden Release:	No
Reactive:	No

Chemical Listings	
Extremely Hazardous Substances:	No
CERCLA Hazardous Substances:	Yes
Toxic Chemicals:	Yes

Methanol is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40CFR Part 372. This product does not contain any other toxic chemical above 1% concentration or a carcinogen above 0.1% concentration.

KEY

ca	Approximately	STEL	Short Term Exposure Level (15 minutes)
na	Not Applicable	TLV	Threshold Limit Value
C	Ceiling	TWA	Time Weighted Average
		BuAc	Butyl Acetate

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
NSC	National Safety Council ("Fundamentals of Industrial Hygiene," 3rd Ed., 1988)

**** MATERIAL SAFETY DATA SHEET ****

Methyl Alcohol
14280

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Methyl Alcohol
Catalog Numbers:
S75959, S75965, S75965A, S75965HPLC, S75965SPEC, A142RS200, A33F-1GAL, A408 1, A408 4, A408-1, A408-4, A4081, A4084, A408SK 4, A408SK-4, A408SK4, A411 20, A411 4, A411-20, A411-4, A41120, A4114, A412 1, A412 20, A412 20 001, A412 200, A412 4, A412 500, A412-1, A412-20, A412-200, A412-4, A412-500, A41200LC, A4121, A41220, A41220 001, A412200, A41220001, A41220003, A41220005, A412200LC, A41220LC, A4124, A4124LC, A412500, A412500002, A412500LC, A412CU1300, A412FB115, A412FB19, A412FB200, A412FB50 A412J500, A412LC, A412P 4, A412P-4, A412P4, A412P4LC, A412RB115, A412RB19, A412RB200, A412RB50, A412RS115, A412RS200, A412RS28, A412RS50, A412SK 4, A412SK-4, A412SK4, A412SS 115, A412SS-11, A412SS-115, A412SS-20, A412SS-200 A412SS-30, A412SS-50, A412SS115, A412SS50, A413-20, A413-4, A413-500, A413200, A4134, A413500, A433P 4, A433P-4, A433P4, A433S 20, A433S 200, A433S 4, A433S-20, A433S-200, A433S-4, A433S20, A433S200, A433S20001, A433S4, A434 20, A434-20, A43420, A450 4, A450-4, A4504, A4504LOT011, A4504LOT012, A452 1, A452 4, A452 SS115, A452-1, A452-4, A4521, A4524, A4524LC, A452J1, A452RS200, A452RS28, A452RS50, A452SK 1, A452SK 4, A452SK-1, A452SK-4, A452SK1, A452SK4, A452SS 200, A452SS 50, A452SS-11, A452SS-115, A452SS-20, A452SS-200, A452SS-30, A452SS-50, A452SS115, A452SS200, A452SS28, A452SS50, A453 1, A453 500, A453 500 001, A453 500 002 A453 500 003, A453-500, A4531, A4531LC, A4531LOT001, A453500, A453500 001, A453500 002, A453500 003, A453500 004, A453500001, A453500002, A453500003, A453500004, A453500005, A453J1, A454 1, A454 4, A454 SS115, A454 SS30, A454 SS50, A454-1, A454-4, A4541, A4541LC, A4544, A4544LC, A4544LOT012, A4544LOT014, A45450%SS-115, A454RS115, A454RS200, A454RS28, A454RS50, A454SS 200, A454SS115, A454SS200, A454SS28, A454SS30, A454SS50, A457 4, A4574, A497RS28, A52RS28, A52RS50, A54RS115, A54RS200, A54RS28, A54RS50, A935 4, A935-4, A9354, A936-1, A936-4, A947 4, A947-4, A9474, A9474LC, A9474LOT002, A947RS115, A947RS200, A947RS28, A947SS115, A947SS200, A947SS28 A947SS50, BP1105 1, BP1105 4, BP1105-1, BP1105-4, BP11051, BP11054, BP1105SS115, BP1105SS200, BP1105SS28, BP1105SS50, BPA947RS-115, BPA947RS-200, BPA947RS-28, FLA412RS-115, FLA412RS-200, FLA412RS-28, FLA412RS-50, FLA452RS-115, FLA452RS-28, FLA452RS-50, FLA454RS-115, FLA454RS-200, FLA454RS-28, FLA454RS-50, HC 400 1GAL, HC400 1GAL, HC4001GAL, IEAA453500A, NC9475554, NC9500047, NC9548094, SC95 1, SC951, SW2 1, SW21, TIA9474, TIA947P200, TIA947P200L, XXA45220LI
Synonyms:
Carbinol, methanol, methyl hydroxide, monohydroxymethane, pyroxylic spirit, wood alcohol, wood naptha, wood spirit.
Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
67-56-1	Methyl alcohol	99%	200-659-6

Hazard Symbols: T F
Risk Phrases: 11 23/25

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW
Appearance: clear, colorless. Flash Point: 12 deg C.
Danger! Flammable liquid. Harmful if inhaled. This substance has caused adverse reproductive and fetal effects in animals. May cause central nervous system depression. May be absorbed through the skin. May cause kidney damage. Poison! May cause respiratory and digestive tract irritation. Cannot be made non-poisonous. Causes eye and skin irritation. May be fatal or cause blindness if swallowed.
Target Organs: Kidneys, central nervous system, liver, eyes.

Potential Health Effects
Eye:
Causes moderate eye irritation. Vapors may cause eye irritation. May cause painful sensitization to light.
Skin:
May cause skin irritation. May be absorbed through the skin in harmful amounts.
Ingestion:
May cause irritation of the digestive tract. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to

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respiratory failure. May cause kidney failure.
Inhalation:
May cause respiratory tract irritation. May cause liver and kidney damage. May cause adverse central nervous system effects including headache, convulsions, and possible death. May cause visual impairment and possible permanent blindness. May cause effects similar to those described for ingestion.
Chronic:
Prolonged or repeated skin contact may cause dermatitis. Chronic inhalation and ingestion may cause effects similar to those of acute inhalation and ingestion.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:
Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.
Skin:
Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion:
If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac.
Inhalation:
Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Notes to Physician:
Effects may be delayed. Ethanol may inhibit methanol metabolism.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:
Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint.
Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective.
Autoignition Temperature: 455 deg C (851.00 deg F)
Flash Point: 12 deg C (53.60 deg F)
NFPA Rating:(estimated) Health: 1; Flammability: 3; Reactivity: 0
Explosion Limits, Lower: 6.00 vol %
Upper: 31.00 vol %

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:
Scoop up with a nonsparking tool, then place into a suitable container for disposal. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Provide ventilation.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well ventilated area. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage:
Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. Keep containers tightly closed.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs

Methyl alcohol	200 ppm ; 262 mg/m3; 250 ppm STEL; 328 mg/m3 STEL; skin - potential for cutaneous absorption	200 ppm TWA; 260 mg/m3 TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m3 TWA

OSHA Vacated PELs:
Methyl alcohol:
200 ppm TWA; 260 mg/m3 TWA

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate protective gloves and clothing to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Liquid
Appearance: clear, colorless
Odor: alcohol-like - weak odor
pH: Not available.
Vapor Pressure: 96 mm Hg
Vapor Density: 1.1 (Air=1)
Evaporation Rate: 5.2 (Ether=1)
Viscosity: 0.55 cP 20 deg
Boiling Point: 64.7 deg C @ 760.00mm Hg
Freezing/Melting Point: -98 deg C
Decomposition Temperature: Not available.
Solubility: miscible
Specific Gravity/Density: .7910g/cm3
Molecular Formula: CH4O
Molecular Weight: 32.04

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid:
High temperatures, incompatible materials, ignition sources.
Incompatibilities with Other Materials:
Oxidants (such as barium perchlorate, bromine, chlorine, hydrogen peroxide, lead perchlorate, perchloric acid, sodium hypochlorite). Active metals (such as potassium and magnesium). Substance is also incompatible with specific chemicals including:acetyl bromide, alkyl aluminum salts, beryllium dihydride, carbon tetrachloride + metals, chloroform + heat, chloroform + sodium hydroxide, cyanuric chloride, diethyl zinc, nitric acid, and potassium tertbutoxide. Please refer to the NFPA Fire Protection Guide for all specifics.
Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide, formaldehyde.
Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 67-56-1: PC1400000
LD50/LC50:
CAS# 67-56-1: Inhalation, rat: LC50 =64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5628 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg.
Carcinogenicity:
Methyl alcohol -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:
No information available.
Teratogenicity:
Effects on Newborn: behavioral, orl-rat TDLo=7500 mg/kg. Embryo or Fetus: fetotoxicity, TCLo=10000 ppm/7H Specific Developmental Abnormalities: cardiovascular, musculoskeletal, urogenital, TCLo=20000 ppm/7H.
Reproductive Effects:

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Paternal Effects: spermatogenesis, ipr-mouse TDLo=5 g/kg.
Neurotoxicity:
No information available.
Mutagenicity:
DNA Damage: orl-rat 10 umol/kg. DNA Inhibition: human lymphocyte 300 mmol/L. Microbial Mutation w/o S9: S. cerevisiae 12 pph.
Other Studies:
None.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Goldfish (fresh water), 250 ppm/11H, death. Aquatic toxicity rating: TLm 96 1000 ppm.
Environmental Fate:
No information reported.
Physical/Chemical:
No information available.
Other:
None.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA P-Series: None listed.
RCRA U-Series: CAS# 67-56-1: waste number U154 (Ignitable waste).

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
Shipping Name: METHANOL
Hazard Class: 3
UN Number: UN1230
Packing Group: II
IMO
No information available.
IATA
No information available.
RID/ADR
No information available.
Canadian TDG
Shipping Name: METHANOL
Hazard Class: 3(6.1)
UN Number: UN1230
Other Information: FLASHPOINT 11 C

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 67-56-1 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA
Section 302 (RQ)
CAS# 67-56-1: final RQ = 5000 pounds (2270 kg)
Section 302 (TPQ)
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 67-56-1: acute, flammable.
Section 313
This material contains Methyl alcohol (CAS# 67-56-1, 99%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
Clean Air Act:
CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
Methyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level:
None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T F

Risk Phrases:

R 11 Highly flammable.
R 23/25 Toxic by inhalation and if swallowed.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 24 Avoid contact with skin.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 67-56-1: 1

Canada

CAS# 67-56-1 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of B2, D1A, D2B.
CAS# 67-56-1 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m3);Skin

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 3/14/1995 Revision #40 Date: 11/18/1998

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

MATERIAL SAFETY DATA SHEET

E.I. DuPont de Nemours & Co., Inc.
DuPont - NEN Research Products
549 Albany Street
Boston MA 02118

Product and Safety Information: (617) 482-9595
Medical Emergency : (800) 441-3637
Emergency Transportation : Chemtrec: (800) 424-9300
If in D.C.: (202) 483-7616

MATERIAL IDENTIFICATION **NONIDET P-40**

MSDS NUMBER :**MSDS 3425,** DMP03275
CORPORATE NUMBER : DU001663

Revision Date : 18-Mar-92

MANUFACTURER/DISTRIBUTOR
UNION CARBIDE

PHONE NUMBERS
TRANSPORT EMERGENCY : CHEMTREC: 1-800-424-9300
MEDICAL EMERGENCY : 1-800-441-3637

TRADE NAMES / SYNONYMS
CHARGER E
ETHOXYLATED OCTYL PHENOL
ETHYLAN CP
IGEPAL (CA; CA250)
NEURTRONYX (622; 675)
NONION (HS 206; HS 208)
NP-40
OCTYLPHENOXYPOLY(ETHOXYETHANOL)
TERT-OCTYLPHENOXYPOLY(ETHOXYETHANOL)
OCTYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL
TERT-OCTYLPHENOXY POLY(OXYETHYLENE)ETHANOL
OP 1062
POLYETHYLENE GLYCOL MONO(OCTYLPHENYL) ETHER
POLYETHYLENE GLYCOL OCTYLPHENYL ETHER
POLY(ETHYLENE OXIDE)OCTYLPHENYL ETHER
POLY(OXY-1,2-ETHANEDIYL), ALPHA-((1,1,3,3-TETRAMETHYLBUTYL)
...PHENYL)-OMEGA-HYDROXY-
POLY(OXYETHYLENE)OCTYLPHENOL ETHER
POLY(OXYETHYLENE)OCTYLPHENYL ETHER
SECOPAL OP 20
SYNPERONIC OP
SYNPERONIC OP 10
T45
T 45 (POLYGLYCOL)
TRITON X 15
TRITON X 114
TRITON X 207

DU PONT REGISTRY NUMBER: DP33-70-9
TSCA INVENTORY STATUS : Reported/Included
NPCA-HMIS RATINGS : Health: 3 Flammability: 1 Reactivity: 0
Personal Protection:

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COMPONENTS

Material	CAS Number	%
OCTYLPHENOXYPOLYETHOXYETHANOL	9036-19-5	97-99
POLYETHYLENE GLYCOL	25322-68-3	1-3
*GLYCOL ETHERS	DP5017-59-8	4.7
ETHYLENE OXIDE	74-21-8	.0010
DIOXANE	123-91-1	.0150

* Regulated as a Toxic Chemical under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

PHYSICAL DATA

Boiling Point : >250 deg C (>482 deg F) at 760 mm Hg. Decomposes
Vapor Pressure : <0.01 mm Hg
Vapor Density : >1 (Air = 1.0)
Melting Point : -9 deg C (16 deg F) Pour Point
Evaporation Rate : <0.01 (Butyl acetate = 1.0)
Water Solubility : Miscible
pH : 6.0 - 8.0 at 5% solution
Odor : Mild
Form : Liquid
Color : Clear, light-colored
Specific Gravity : 1.05 - 1.06

Viscosity : 260 cps Brookfield

HAZARDOUS REACTIVITY

Instability : Stable at normal temperatures and storage conditions. Prolonged excessive heat may cause product decomposition.
Incompatibility : Incompatible with strong oxidizers, strong bases, strong acids, and materials reactive with hydroxyl compounds.
Decomposition : Hazardous gases/vapors produced are carbon monoxide, carbon dioxide.
Polymerization : Polymerization will not occur.

FIRE AND EXPLOSION DATA

Flash Point : >149 deg C (>300 deg F) ASTM D1310
Method : TOC

FIRE AND EXPLOSION HAZARDS

Heating can release vapors which can be ignited. Hazardous gases/vapors produced in fire are carbon monoxide, carbon dioxide.

EXTINGUISHING MEDIA

Water Spray. Foam. Dry Chemical. CO2.

SPECIAL FIRE FIGHTING INSTRUCTIONS

Keep personnel removed & upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment. Cool tank/container with water spray.

Do not direct a solid stream of water or foam into hot, burning pools; this may cayse frothing and increase fire intensity. This material may produce a floating fire hazard.

HEALTH HAZARD INFORMATION

EFFECTS OF OVEREXPOSURE

INHALATION

Mists may cause chest discomfort and coughing.

SKIN CONTACT

Brief contact with this material should not produce any harmful effects but prolonged contact, as from clothing wet with the material, may cause irritation. Prolonged or widespread exposure may result in the absorption of potentially harmful amounts of material.

EYE CONTACT

Causes pain and severe excess reddening and swelling of the conjunctiva, with possible chemical burns.

INGESTION

May cause nausea, abdominal discomfort, vomiting and diarrhea.

EFFECTS OF REPEATED OVEREXPOSURE

Repeated skin contact may result in the development of cumulative dermatitis.

(HEALTH HAZARD INFORMATION - Continued)

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE

A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

This product may contain trace amounts of ethylene oxide, a condition which creates the potential for accumulation of ethylene oxide in the head space of shipping and storage containers and in enclosed areas. Ethylene oxide is considered by OSHA, IARC, and NTP as a potential carcinogen for humans. OSHA considers, that at excess levels, ethylene oxide may present reproductive, mutagenic, genotoxic, neurologic and sensitization hazards in humans. If this product is handled with adequate ventilation, the presence of these trace amounts is not expected to result in any short or long term hazard.

CARCINOGENICITY

The following components are listed by IARC, NTP, OSHA, or ACGIH as carcinogens. A 'P' indicates a Proposed Carcinogen.

Material	IARC	NTP	OSHA	ACGIH
ETHYLENE OXIDE	X	X	X	X
DIOXANE	X	X		

Du Pont controls the following materials as potential carcinogens : ETHYLENE OXIDE.

APPLICABLE EXPOSURE LIMITS

POLYETHYLENE GLYCOL

AEL * (Du Pont): None Established
TLV (ACGIH) : None Established
PEL (OSHA) : None Established
WEEL (AIHA) : 10 mg/m3 (8 hr TWA)

ETHYLENE OXIDE

AEL * (Du Pont): 1 ppm - 8 Hr. TWA
TLV (ACGIH) : 1 ppm - A2, 1.8 mg/m3 - A2 - 8 Hr TWA
PEL (OSHA) : 1 ppm - 8 Hr. TWA
STEL 5 ppm - 15 Min. TWA

DIOXANE

AEL * (Du Pont): 25 ppm - 8 Hr. TWA - Skin
TLV (ACGIH) : 25 ppm, 90 mg/m3 - 8 Hr TWA - Skin
PEL (OSHA) : 25 ppm, 90 mg/m3 - 8 Hr TWA - Skin

(HEALTH HAZARD INFORMATION - Continued)

* AEL is Du Pont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL

are in effect, such limits shall take precedence.

SAFETY PRECAUTIONS

Do not get in eyes. Avoid breathing vapors or mist. Avoid contact with skin. Avoid contact with clothing. Wash thoroughly after handling. Wash clothing after use.

FIRST AID

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

NOTES TO PHYSICIAN

Activated charcoal slurry may be administered.
To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400mL water and mix thoroughly.
Administer 5mL/kg, or 350mL for an average adult.

Due to the irritant and surfactant action of the material, if it is aspirated during swallowing or vomiting, there may be lung injury. Therefore, emesis should not be induced by mechanical or pharmacological means. If it is considered that evacuation of the stomach contents is necessary, this should be done by means least likely to result in aspiration (e.g., the use of gastric lavage in the presence of endotracheal intubation).

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Use only with adequate ventilation. Keep container tightly closed.

PROCESS HAZARD: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the

presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions.

Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Further information is available from Union Carbide in a technical bulletin entitled "Ignition Hazards of Organic Chemical Vapors".

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION
Wear safety glasses. Wear coverall chemical splash goggles and face shield when the possibility exists for eye and face contact due to splashing or spraying of material.

RESPIRATORS
This material does not have established exposure limits. Wear a positive pressure air-supplied respirator in situations where a respirator is judged appropriate.

PROTECTIVE CLOTHING
Wear impervious clothing, such as gloves, apron, boots, or whole bodysuit made as appropriate. Vendor recommends PVC-coated gloves.

DISPOSAL INFORMATION

AQUATIC TOXICITY

Like most surfactants, this product is expected to be relatively toxic to fish.

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Dike spill. Prevent liquid from entering sewers, waterways or low areas. Soak up with sawdust, sand, oil dry or other absorbent material. Shovel or sweep up.

(DISPOSAL INFORMATION - Continued)

Caution: Floor may be slippery. Use care to avoid falling.

Transfer liquid to containers for recovery or disposal and solid diking material to separate containers for disposal.

To avoid gelling and foaming problems, do not use water to flush away spills.

WASTE DISPOSAL

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. Incinerate material in accordance with Federal, State/Provincial, and Local requirements.

Surfactants can cause foaming problems in biological wastewater treatment plants and other high shear operations.

STORAGE CONDITIONS

Store in well ventilated area. Keep container tightly closed.

Low temperature storage can cause handling problems. Viscosity of material will increase.

This product may contain trace amounts of ethylene oxide, a condition which creates the potential for accumulation of ethylene oxide in the head space of shipping and storage containers and in enclosed areas.

TITLE III HAZARD CLASSIFICATIONS

Acute	: Yes
Chronic	: No
Fire	: No
Reactivity	: No
Pressure	: No

ADDITIONAL INFORMATION AND REFERENCES

Technical data, based on Union Carbide MSDS dated 11/1/91.

TRITON is a registered trademark of Union Carbide Company.

Union Carbide purchased the TRITON product line from Rohm & Haas.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : Du Pont
Corporate MSDS Office - HR
Barley Mill Plaza, P14-2150

Wilmington, DE 19880-0014
302-992-6704

# Indicates updated section.

End of MSDS

MATERIAL SAFETY DATA SHEET

E.I. DuPont de Nemours & Co., Inc.
DuPont - NEN Research Products
549 Albany Street
Boston MA 02118

Product and Safety Information: (617) 482-9595
Emergency Information: (800) 441-3637
Emergency Transportation : Chemtrec: (800) 424-9300
If in D.C.: (202) 483-7616

Material Safety Data Sheet

MATERIAL IDENTIFICATION

OPD 2HCL

MSDS NUMBER : N04967, GLMPF094

Revision Date : 25-Aug-89

MANUFACTURER/DISTRIBUTOR
Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO. 63178

PHONE NUMBERS
PRODUCT INFORMATION : 1-(302)451-9894 Safety
TRANSPORT EMERGENCY : 1-(302)451-3299 Security
MEDICAL EMERGENCY : Site Medical

CHEMICAL FAMILY : Aromatic amine

TRADE NAMES / SYNONYMS
O-PHENYLENEDIAMINE DIHYDROCHLORIDE
1,2-BENZENEDIAMINE DIHYDROCHLORIDE
RTECS ST0175000

CAS NAME : 1,2-benzenediamine dihydrochloride
CAS NUMBER : 615-28-1
FORMULA : C6-H8-N2.2Cl-H
MOLECULAR WEIGHT : 181.07

COMPONENTS

Material	CAS Number	%
o-Phenylenediamine dihydrochloride	615-28-1	99%

PHYSICAL DATA

Boiling Point : N/Ap
Vapor Pressure : N/Ap mm Hg
Vapor Density : N/Ap
Melting Point : 258 deg C decomposes

(PHYSICAL DATA - Continued)

% Volatiles : N/Ap
Evaporation Rate : ,<1
Water Solubility : Soluble
Odor : Slight aromatic
Form : Solid, crystals
Color : Brownish-yellow
Specific Gravity : N/Av

pH information: Slightly acidic

HAZARDOUS REACTIVITY

Instability : Stable under normal conditions.
Incompatibility : Incompatible with Strong oxidizing agents.
Decomposition : Decomposes with heat. Hazardous gases/vapors produced are CO, CO2, nitrogen oxides, hydrogen chloride gas.
Polymerization : Polymerization will not occur.

FIRE AND EXPLOSION DATA

No information available.

FIRE AND EXPLOSION HAZARDS

Hazardous gases/vapors produced in fire are CO, CO2, nitrogen oxides, hydrogen chloride gas.

This is a hydrochloride salt of o-phenylenediamine, which is an OSHA Type IIIB combustible material. By analogy to OPD, OPD 2HCL dust might form explosive mixtures in air.

EXTINGUISHING MEDIA

Water Spray. Foam. Dry Powder (Sand or Met-L-X). Dry Chemical. CO2.

SPECIAL FIRE FIGHTING INSTRUCTIONS

Evacuate personnel to a safe area. Keep personnel removed & upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment.

OTHER PHYSICAL HAZARDS

None known.

HEALTH HAZARD INFORMATION

Routes of Exposure and Acute Effects

Inhalation: Cause irritation to mucous membranes and respiratory tract. May cause allergic respiratory reaction.

Skin: Cause irritation. May be absorbed through skin. Possible allergic skin reaction. The compound is a moderate sensitizer in animals; in humans it has been infrequently associated with skin sensitization.

Eye: Cause eye irritation.

Ingestion: ipr-rat LD50:290 mg/kg; ipr-mus LD50: for OPD 2HCL. orl-rat LD50:1070 mg/kg for OPD. The compound is toxic by ingestion. May be harmful if swallowed.

Medical Conditions Aggravated by Exposure: No information found.

Target Organs: Mucous membranes, respiratory tract, skin, eyes. Also liver (tumors), based on rat studies.

Effects of Repeated Exposure: May cause allergic respiratory and skin reactions.

Chronic Effects: RTECS lists some tumorigenic data with 2 coded as carcinogenic. However, in 1984, the DuPont AEL committee (Haskell Lab) reviewed the literature and found insufficient evidence for a DuPont classification of carcinogen. This substance has not been identified as a carcinogen by OSHA, NTP, IARC or DuPont. By vendor, Sigma, o-phenylenediamine dihydrochloride is a Carcinogen. By Aldrich, this compound is a Cancer Suspect Agent.
Meets criteria for proposed OSHA Medical Records Rule.

CARCINOGENICITY

None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS

OPD 2HCL

TLV	**(ACGIH)**	: None Established
PEL	**(OSHA)**	: None Established

SAFETY PRECAUTIONS

Avoid contact with eyes. Avoid contact with skin. Avoid contact with clothing. Avoid breathing dust. Wash thoroughly after handling.

FIRST AID

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

Flush skin with water after contact. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Use only with adequate ventilation. Keep container in a cool place. Keep container tightly closed. Avoid dust generation. Do not mix with incompatibles as listed above.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face : See Site Attachment.
Respirator : See Site Attachment.
Additional : See Site Attachment.
Protective Gloves: See Site Attachment.

DISPOSAL INFORMATION

AQUATIC TOXICITY

No information found.

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.

Avoid raising dust. Sweep-up; place in plastic bag or other appropriate container; label.
Take to solvent storage facility for disposal.
Ventilate area and wash spill site after material pickup is complete.

WASTE DISPOSAL

Take to solvent storage facility for disposal (incineration).

STORAGE CONDITIONS

Store in well ventilated area. Store in cool place. Keep container tightly closed.

ADDITIONAL INFORMATION AND REFERENCES

IMPORTANT PHONE NUMBERS.

VENDOR: Sigma Chemical Co.
PRODUCT INFORMATION PHONE: 1-(800)325-8070
PRODUCT EMRGENCY PHONE: 1-(314)771-5765

REFERENCES:

1. Sigma Chemical Co. MSDS, 03/26/86.
2. RTECS, microfiche version, 1/86.
3. Haskell Lab AEL List, 4/9/86.
4. Haskell Lab literature report 455.
5. The Merck Index, M. Windholz, ed., 10th Ed., 1983.
6. The Aldrich Catalog, 1984-85.
7. The Condensed Chemical Dictionary, Hawley, 1981.
8. Fluka Catalog 14, 1984/85.

Other Information:
This MSDS was prepared by: Mila Folgar
Date: 86/05/13

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : Site MSDS Administrator
Site Safety Office
Glasgow Site
Glasgow, DE
302-451-9894

010728

End of MSDS

RECD OCT. 2003

MATERIAL SAFETY DATA SHEETS FOR PARAFORMALDEHYDE DECONTAMINATION

010729

Material Safety Data Sheet

Hoechst Celanese

Chemical Group
Hoechst Celanese Corporation
P.O. Box 569320 / Dallas, Texas 75356-9320
Information phone: 214 689 4000
Emergency phone: 800 424 9300 (CHEMTREC)

Paraformaldehyde prills, 91-93%

Issued October 18, 1991

#69

Identification

Product name: Paraformaldehyde prills, 91-93%

Chemical name: Paraformaldehyde

Chemical family: Aldehyde polymer

Formula: $HO(CH_2O)_nH$

Molecular weight (average): 600

CAS number: 30525-89-4

CAS name: Paraformaldehyde

Synonyms: Paraform, polyoxymethylene.

Department of Transportation information
Shipping name: Paraformaldehyde
Hazard classification: ORM-A
United Nations number: UN2213
Emergency Response Guide no.: 32
Reportable Quantity: 1000 lb/454 kg

Physical data

Boiling point (760 mm Hg): Does not boil. Gives off formaldehyde gas when heated.

Melting range: 120-170°C (248-338°F)

Vapor pressure (25°C): 1.45 mm Hg

Vapor density (Air = 1 @ 20°C): 1.03 (calculated)

Solubility in water (% by WT @ 20°C): Complete

Percent volatiles by volume: <10

Particle density: 1.4 g/ml

Appearance and odor: White free-flowing solid prill with strong, pungent formaldehyde odor.

Fire and explosion hazard data

Flammable limits in air, % by volume
Upper: 73.0
Lower: 7.0

Flash point (test method):
Tag closed cup (ASTM D56): 158°F (70°C)

Extinguishing media:
Use CO_2 or dry chemical for small fires, alcohol-type aqueous film-forming foam or water spray for large fires.

Special fire-fighting procedures:
* If potential for exposure to vapors or products of combustion exists, wear complete personal protective equipment and respirator approved by both NIOSH and MSHA and within the working limits of the respirator:

Self-contained breathing apparatus with full facepiece operated in pressure demand or other positive pressure mode.

Supplied-air respirator with full facepiece and operated in pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Use water spray to cool fire-exposed structures and vessels.

Unusual fire and explosion hazards:
Do not use compressed air to transfer this material.

Component information (See Glossary at end of MSDS for definitions)[1]

Component, wt. % (CAS number)	Exposure levels: OSHA PEL TWA	ACGIH TLV® TWA	IDLH	Subject to SARA §313 reporting?
• Paraformaldehyde, 91-93% (30525-89-4)	15 mg/m³, total dust; 5 mg/m³, respirable fraction	10 mg/m³, total dust[2]	NVE[3]	No
• Water, 9% max. (7732-18-5)	NVE[3]	NVE[3]	NVE[3]	No
• Formaldehyde, off-gas (50-00-0)	1 ppm; 2 ppm, STEL (15)	1 ppm; 2 ppm, STEL (15)	100 ppm	Yes

(1) All components listed as required by federal, California, New Jersey and Pennsylvania regulations.
(2) Hoechst Celanese has adopted the ACGIH TLV.
(3) No value established.

Special hazard designations

	HMIS	NFPA	Key
Health:	3	2	0 - Minimal
Flammability:	1	1	1 - Slight
Reactivity:	0	0	2 - Moderate
Personal protective equipment:	G	—	3 - Serious
			4 - Severe

SARA §311 hazard categories

Acute health:	Yes
Chronic health:	Yes
Fire:	Yes
Sudden release of pressure:	Yes
Reactive:	No

Reactivity data

Stability:
Stable.

Hazardous polymerization:
Will not occur.

Conditions to avoid:
Temperatures above 100°F (38°C); sparks; flame.

Materials to avoid:
Caustic soda, soda ash and other alkalis; acids; amines; oxygen, hydrogen peroxide and other strong oxidizing agents.

Hazardous combustion or decomposition products:
Carbon monoxide; formaldehyde vapor.

Health data

Effects of exposure/toxicity data

Acute

Ingestion (swallowing): Causes severe irritation and inflammation of mouth, throat and stomach. Severe stomach pains follow, with possible loss of consciousness. Slightly toxic to animals (oral LD_{50}, rats: 0.68 g/kg).

Inhalation (breathing): Highly irritating to nasal passages. Can cause inflammation of lining of nose, throat and lungs. Can cause pneumonia and pulmonary edema (accumulation of fluid in the lungs). Signs and symptoms of pulmonary edema can be delayed for several hours. Sensitizer (allergic reaction possible). May cause sensitization of the respiratory system. Moderately toxic to animals (inhalation LC_{50}, rats, 4 hrs: 1.1 mg/l).

Skin contact: Can cause moderate injury – reddening and swelling. Sensitizer (allergic reaction possible). Dust can cause drying, cracking and scaling. Repeated or prolonged contact causes hardening (tanning). Slightly toxic to animals by absorption (dermal LD_{50}, rabbits: >2 g/kg).

Eye contact: Can cause chemical burn – damage irreversible. Exposure to high vapor concentrations, or to dust, causes irritation and tearing.

(continued)

* New or revised information; previous version dated May 21, 1990.

Chronic

Mutagenicity: *In vitro*, formaldehyde is mutagenic (mutagenic activity detected in *E. coli, Pseudomonas fluorescens,* and *Saccharomyces cervisiae). In vivo*, no information.

Carcinogenicity: Formaldehyde is carcinogenic to animals (nasal cancer, lifetime inhalation study, rats). Listed as an experimental animal carcinogen (IARC, NTP), a probable human carcinogen (IARC), and a potential cancer hazard (OSHA).

Reproduction: Formaldehyde showed no evidence of reproductive effects in animal studies (mice, rats, dogs).

Other: Formaldehyde – no evidence of effects on liver, kidneys, nervous system or blood in 180-day studies of rats, monkeys or hamsters.

Medical conditions aggravated by exposure:
Significant exposure to this chemical may adversely affect people with chronic disease of the respiratory system, skin and/or eyes.

Emergency and first aid procedures

Ingestion (swallowing): Induce vomiting of conscious patient immediately by giving two glasses of water and pressing finger down throat. Contact a physician immediately.

Inhalation (breathing): Remove patient from contaminated area. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact a physician immediately.

Skin contact: Remove contaminated clothing and wash contaminated skin with large amounts of water. If irritation persist, contact a physician.

Eye contact: Flush eyes with water for at least 15 minutes. Contact a physician immediately.

Spill or leak procedures

Steps to be taken if material is released or spilled:
Eliminate ignition sources. Avoid eye or skin contact. Place leaking containers in well-ventilated area. Neutralize with ammonium hydroxide or sodium sulfite. NOTE: This reaction is reversible. All clean-up and disposal should be carried out in accordance with federal, state and local regulations. If required, state and local authorities should be notified. Use standard clean-up procedures such as vacuuming or sweeping.

Waste disposal method:
This product when spilled or disposed is a non-hazardous solid waste as defined in Resource Conservation Recovery Act regulations (40 CFR 261). Product must be disposed of properly under state regulations for industrial waste. Preferred method is incineration or biological treatment in federal/state approved facility.

Special protection information

Respiratory protection:

*Based on contamination level and working limits of the respirator, use a respirator approved by both NIOSH and MSHA (respirators are listed in order from minimum to maximum respiratory protection):

Chemical cartridge respirator with full facepiece and organic vapor cartridge(s) in combination with a dust and mist filter.

Chemical cartridge respirator with full facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter.

Gas mask with organic vapor canister (chin-style or front- or back-mounted canister), with a full facepiece and a high-efficiency particulate filter.

Powered air-purifying respirator with tight-fitting facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter.

Type 'C' supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure mode or with a full facepiece, helmet or hood operated in continuous-flow mode.

Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

Ventilation

Local exhaust: Recommended when appropriate to control employee exposure.

Mechanical (general): Not recommended as the sole means of controlling employee exposure.

Protective gloves:
Neoprene or rubber.

Eye protection:
Chemical safety goggles.

Other protective equipment:
For operations where spills can occur, use impervious body covering and boots. A safety shower and eye bath should be available.

Special precautions

Precautions to be taken in handling and storing:

*Caution: Flexible intermediate bulk containers can build static electrical charge while contents are being emptied. Do not allow contents to free fall in areas where potential flammable air-vapor or air-dust mixtures exist. Use proper grounding procedures when transferring. For example, use of a grounded intermediate hopper or conveyor is recommended.

Store in a cool, well-ventilated area. Do not expose to temperatures above 38°C (100°F). Keep away from heat, sparks and flame. Keep containers closed. Use only DOT-approved containers. Provide emergency exhaust. Avoid breathing dust or vapor. Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use. Discard contaminated leather clothing. Do not enter storage area unless adequately ventilated.

*Regulatory information

OSHA Formaldehyde Standard
This product is capable of emitting free formaldehyde and is covered by the OSHA Formaldehyde Standard, 29 CFR 1910.1048.

Federal Insecticide, Fungicide, and Rodenticide Act
Hoechst Celanese formaldehyde-based products are not registered nor intended for any active ingredient use associated with pesticides, fungicides, rodenticides, or any activities requiring registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

* New or revised information; previous version dated May 21, 1990.

* Glossary for Components information table

ACGIH – American Conference of Governmental Industrial Hygienists
CAS – Chemical Abstracts Service
Ceiling – The concentration that should not be exceeded during any part of the working day
IDLH – Immediately Dangerous to Life or Health
OSHA – Occupational Safety and Health Administration
PEL – Permissible exposure limit
SARA – Superfund Amendments and Reauthorization Act
Skin – Potential contribution to overall exposure possible via skin absorption.
STEL – Short-term exposure limit: 15-min. time-weighted average
TLV – Threshold limit value
TWA – 8-hour time-weighted average

Chemical Group
Hoechst Celanese Corporation
P.O. Box 569320/Dallas, Texas 75356-9320
Information phone: 214 689 4000
Emergency phone: 800 424 9300 (CHEMTREC)

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* The supplier makes no warranty of any kind, express or implied, concerning the use of this product either singly or in combination with other substances. Effects can be aggravated by other materials. This product may aggravate or add to the effects of other materials. This product may be released from gas, liquid or solid materials made directly or indirectly from it. User assumes all risks incident to its use. User must communicate to its employees and customers, including consumers of its products, all warnings that relate to the potential exposure of each of those groups to the material. To the best of our knowledge, the information contained herein is accurate. However, neither Hoechst Celanese Corporation nor any of its subsidiaries or affiliates assume any liability whatsoever for the accuracy or completeness of the information contained herein. The Hoechst name and logo are registered trademarks of Hoechst AG.

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
0 / 2 / 0	Health Hazard 2 Fire Hazard 0 Reactivity 0	See Section 15.

Section 1. Chemical Product and Company Identification

Page Number: 1

Common Name/ Trade Name	**Ammonium carbonate**	Code	A5010
		CAS#	506-87-6
Manufacturer	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	BP1925000
		TSCA	TSCA 8(b) inventory: *Ammonium carbonate*
Commercial Name(s)	Not available.	CI#	Not available.
Synonym	Not available.	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Name			
Chemical Family	Not available.		
Chemical Formula	(NH4)2CO3		
Supplier	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Ammonium carbonate	506-87-6				100

Toxicological Data on Ingredients

Ammonium carbonate
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects

Hazardous in case of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance is toxic to lungs, mucous membranes.
Repeated or prolonged exposure to the substance can produce target organs damage.

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention.
Serious Skin Contact	Not available.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Serious Inhalation	Not available.
Ingestion	Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container.

Section 7. Handling and Storage

Precautions	Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible.
Storage	No specific storage is required. Use shelves or cabinets sturdy enough to bear the weight of the chemicals. Be sure that it is not necessary to strain to reach materials, and that shelves are not overloaded.

Continued on Next Page

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	**Odor**	Not available.
Molecular Weight	96.11 g/mole	**Taste**	Not available.
pH (1% soln/water)	Not available.	**Color**	Not available.

Boiling Point	*Not available.*
Melting Point	Decomposes. (60°C or 140°F)
Critical Temperature	Not available.
Specific Gravity	1.5 (Water = 1)
Vapor Pressure	Not applicable.
Vapor Density	Not available.
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water.
Solubility	*Soluble in cold water.*

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	*Not available.*
Incompatibility with various substances	Not available.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Not available.
Special Remarks on *Corrosivity*	Not available.
Polymerization	No.

Continued on Next Page

Section 11. Toxicological Information

Routes of Entry	Eye contact. Inhalation. Ingestion.
Toxicity to Animals	*LD50: Not available.* LC50: Not available.
Chronic Effects on Humans	*The substance is toxic to lungs, mucous membranes.*
Other Toxic Effects on Humans	Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).
Special Remarks on Toxicity to Animals	Not available.
***Special Remarks on* Chronic Effects on Humans**	*Not available.*
Special Remarks on other Toxic Effects on Humans	Not available.

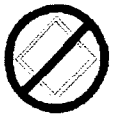
Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are more toxic.
Special Remarks on the *Products of Biodegradation*	Not available.

Section 13. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	: Not available. : NA9084 PG: III
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

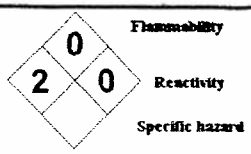
Federal and State Regulations	Pennsylvania RTK: Ammonium carbonate Massachusetts RTK: Ammonium carbonate TSCA 8(b) inventory: Ammonium carbonate CERCLA: Hazardous substances.: Ammonium carbonate	
California Proposition 65 Warnings		
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).	
Other Classifications	**WHMIS (Canada)**	CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
	DSCL (EEC)	R36- Irritating to eyes.

Continued on Next Page

HMIS (U.S.A.)

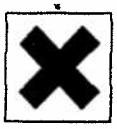
Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)



WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Dust respirator. Be sure to use an *approved/certified respirator or* equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16. Other information

Catalog Number(s)	A1152, A1154, A1155, AM173
References	Not available.
Other Special Considerations	Not available.

Validated by G. A. Binas on 6/23/99.	Verified by G. A. Binas. Printed 6/25/99.

CALL (310) 516-8000

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
2 1 0	Health Hazard 2 Fire Hazard 1 Reactivity 0	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Methenamine**	Code	M3710
		CAS#	100-97-0
Manufacturer	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	MN4725000
		TSCA	TSCA 8(b) inventory: Methenamine
Commercial Name(s)	Hexamine	CI#	Not available.
Synonym	Hexamethylenetetramine	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Name			
Chemical Family	Not available.		
Chemical Formula	C6H12N4		
Supplier	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Methenamine	100-97-0				100

Toxicological Data on Ingredients

Methenamine
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure is not known to aggravate medical condition.

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.
Ingestion	Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Flammable.
Auto-Ignition Temperature	410°C (770°F)
Flash Points	CLOSED CUP: 250°C (482°F).
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).
Fire Hazards in Presence of Various Substances	Flammable in presence of open flames and sparks.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Flammable solid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Flammable solid. Stop leak if without risk. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

Continued on Next Page

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes
Storage	Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	Odor	Not available.
Molecular Weight	140.19 g/mole	Taste	Not available.
pH (1% soln/water)	8 [Basic.]	Color	Not available.

Boiling Point	Not available.
Melting Point	Sublimes. (263°C or 505.4°F)
Critical Temperature	Not available.
Specific Gravity	1.331 (Water = 1)
Vapor Pressure	Not applicable.
Vapor Density	4.83 (Air = 1)
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	The product is more soluble in oil; log(oil/water) = 135
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water.
Solubility	Easily soluble in cold water.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Not available.
Incompatibility with various substances	Not available.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Not available.
Special Remarks on Corrosivity	Not available.

Continued on Next Page

Polymerization	No.

Section 11. Toxicological Information

Routes of Entry	Eye contact. Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Not available.
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are more toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	CLASS 4.1: Flammable solid.
Identification	: Hexamethylenetetramine : UN1328 PG: III
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	TSCA 8(b) inventory: Methenamine
California Proposition 65 Warnings	
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
Other Classifications	WHMIS (Canada) CLASS B-4: Flammable solid.

Continued on Next Page

DSCL (EEC) R36/38- Irritating to eyes and skin.

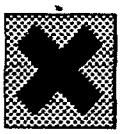
HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16. Other Information

Catalog Number(s)	ME120, M1217
References	Not available.
Other Special Considerations	Not available.

Validated by G. A. Binas on 6/23/99.

Verified by G. A. Binas.
Printed 8/19/99.

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: SAPONIN
COMMON SYNONYMS: QUILLAJA EXTRACT; QUILLAJA SAPONIN
CHEMICAL FAMILY: NATURAL PRODUCTS
FORMULA: N/A
FORMULA WT.: N/A
CAS NO.: 8047-15-2
NIOSH/RTECS NO.: VQ1400000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 3388

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #02

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	1	SLIGHT
REACTIVITY	-	0	NONE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

INTERNATIONAL LABELING

2 - PRODUCT IDENTIFICATION (continued)

DO NOT BREATHE DUST. AVOID CONTACT WITH SKIN AND EYES.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SAPONIN	8047-15-2	90-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: N/A

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: N/A (H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): APPRECIABLE (¢10%)

% VOLATILES BY VOLUME: 0 (21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: YELLOW TO TAN POWDER.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

5 - FIRE AND EXPLOSION HAZARD DATA (continued)

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

UNUSUAL FIRE & EXPLOSION HAZARDS
NONE IDENTIFIED.

TOXIC GASES PRODUCED
CARBON MONOXIDE, CARBON DIOXIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

NO INFORMATION IS AVAILABLE
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: NONE IDENTIFIED

6 - HEALTH HAZARD DATA (continued)

SKIN CONTACT: NONE IDENTIFIED

EYE CONTACT: NONE IDENTIFIED

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NONE IDENTIFIED

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
NONE INDICATED

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: NO CHRONIC: NO FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE DOCUMENTED

INCOMPATIBLES: NONE IDENTIFIED

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 29389000004

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

SOLUTIONS DEPARTMENT
MSDS for SODIUM AZIDE (0.1%) IN WATER

1 - Site Specific Information

GENERAL STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: 0.1% SODIUM AZIDE IN WATER

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#
SODIUM AZIDE	0.1	26628-22-8
H2O	99.9	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X			0	0	0	0

SPECIAL HAZARD RATING: NONE

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: SODIUM AZIDE
COMMON SYNONYMS: AZIUM; SMITE; HYDRAZOIC ACID, SODIUM SALT; KAZOE
CHEMICAL FAMILY: INORGANIC SODIUM COMPOUNDS
FORMULA: NAN3
FORMULA WT.: 65.02
CAS NO.: 26628-22-8
NIOSH/RTECS NO.: VY8050000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: V015

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #04

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	3	SEVERE (POISON)
FLAMMABILITY	-	2	MODERATE
REACTIVITY	-	3	SEVERE (WATER REACTIVE)
CONTACT	-	2	MODERATE

LABORATORY PROTECTIVE EQUIPMENT

STOP SIGN - SEE SECTION VIII FOR PRECAUTIONS

U.S. PRECAUTIONARY LABELING

POISON DANGER
COMBUSTIBLE. CAUSES IRRITATION. MAY BE FATAL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN. SHOCK SENSITIVE MATERIAL. CAN BE AN EXPLOSION HAZARD.

2 - PRODUCT IDENTIFICATION (continued)

CONTACT WITH ACIDS, WATER, COPPER, LEAD, MERCURY, SILVER, OTHER HEAVY METALS, OR HEAVY METAL SALTS CAN CAUSE FIRE OR EXPLOSION. EXCEPTIONAL HEALTH HAZARD: READ MATERIAL SAFETY DATA SHEET.
KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE DUST. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, DO NOT USE WATER. USE DRY SAND, EARTH OR SODA ASH. IN CASE OF SPILL, SWEEP UP AND CAREFULLY REMOVE.

PRECAUTIONARY LABELING (CONTINUED)

INTERNATIONAL LABELING

VERY TOXIC IF SWALLOWED. CONTACT WITH ACIDS LIBERATES VERY TOXIC GAS. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF SOAP AND WATER.

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SODIUM AZIDE	26628-22-8	90-100	0.3 MG/M	0.11 PPM

THE TLV AND PEL (SKIN) LISTED DENOTE CEILING LIMITS.

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: 275 C (527 F) (AT 760 MM HG) DECOMPOSES

VAPOR DENSITY (AIR=1): 2.2

SPECIFIC GRAVITY: 1.85 (H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H2O): HYDROLYZES

% VOLATILES BY VOLUME: 0 (21 C)

PH: N/A

4 - PHYSICAL DATA (continued)

ODOR THRESHOLD (P.P.M.): N/A PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: COLORLESS CRYSTALS. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE DRY CHEMICAL OR CARBON DIOXIDE. DO NOT USE WATER.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE EXPOSED CONTAINERS FROM FIRE AREA, IF IT CAN BE DONE WITHOUT RISK.

UNUSUAL FIRE & EXPLOSION HAZARDS
CAN REACT VIOLENTLY WITH SHOCK, FRICTION, OR HEAT. CONTACT WITH COPPER, LEAD, MERCURY, SILVER, OTHER HEAVY METALS, OR HEAVY METAL SALTS CAN RESULT IN THE FORMATION OF EXPLOSIVE METALLIC AZIDES. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. NOTE: DECOMPOSES AT MELTING POINT.

TOXIC GASES PRODUCED
OXIDES OF NITROGEN, HYDRAZOIC ACID FUMES (EXPLOSION HAZARD)

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 0.3 MG/M (0.11 PPM)

TLV LISTED DENOTES CEILING LIMIT.

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 0.3 MG/M

PEL (SKIN) LISTED DENOTES CEILING LIMIT.

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR SODIUM AZIDE	27	MG/KG
SKIN RABBIT LD50 FOR SODIUM AZIDE	20	MG/KG
INTRAPERITONEAL MOUSE LD50 FOR SODIUM AZIDE	18	MG/KG
INTRAVENOUS MOUSE LD50 FOR SODIUM AZIDE	19	MG/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT, HEADACHE, DIZZINESS, BLURRED VISION, LOW BLOOD PRESSURE, SLOW HEART RATE, UNCONSCIOUSNESS, AND MAY BE FATAL.

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: RAPID ABSORPTION, MAY BE FATAL.

INGESTION: HEADACHE, NAUSEA, VOMITING, DIZZINESS, GASTROINTESTINAL IRRITATION, BLURRED VISION, LOW BLOOD PRESSURE, SLOW HEART RATE, REDUCED BODY PH, REDUCED BODY TEMPERATURE, CONVULSIONS, UNCONSCIOUSNESS, AND MAY BE FATAL.

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
CENTRAL NERVOUS SYSTEM, RESPIRATORY SYSTEM, LUNGS, CARDIOVASCULAR SYSTEM

6 - HEALTH HAZARD DATA (continued)

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT, ABSORPTION

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER. INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE RE-USE.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: YES PRESSURE: NO REACTIVITY: YES

EXTREMELY HAZARDOUS SUBSTANCE:	YES	CONTAINS SODIUM AZIDE (RQ = 1,000 LBS, TPQ = 500 LBS)
CERCLA HAZARDOUS SUBSTANCE:	YES	CONTAINS SODIUM AZIDE (NA(N3)) (RQ = 1000 LBS)
SARA 313 TOXIC CHEMICALS:	NO	
TSCA INVENTORY:	YES	

7 - REACTIVITY DATA

STABILITY: UNSTABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION, MOISTURE, SHOCK

INCOMPATIBLES: HEAVY METALS (ESPECIALLY COPPER, LEAD, MERCURY, AND SILVER), STRONG OXIDIZING AGENTS, STRONG ACIDS, MINERAL ACIDS, WATER, BARIUM CARBONATE, BROMINE,

7 - REACTIVITY DATA (continued)

CARBON DISULFIDE, ACID CHLORIDES, DIMETHYL SULFATE

DECOMPOSITION PRODUCTS: OXIDES OF NITROGEN, HYDRAZOIC ACID FUMES (EXPLOSION HAZARD), SODIUM

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. SHUT OFF IGNITION SOURCES; NO FLARES, SMOKING, OR FLAMES IN AREA. CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.
DISPOSE OF PROMPTLY. DO NOT STORE.
DO NOT ALLOW SPILL TO ENTER DRAINS OR SEWER SYSTEM.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER: P105 (ACUTE HAZARDOUS WASTE)

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION EXCEEDS TLV, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

EYE/SKIN PROTECTION: SAFETY GOGGLES AND FACE SHIELD, UNIFORM,PROTECTIVE SUIT, RUBBER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. STORE IN COOL, DRY, WELL-VENTILATED AREA AWAY FROM HEAT, SPARKS, OR FLAME. DO NOT STORE NEAR ACIDS OR IN METAL

10 - STORAGE AND HANDLING PRECAUTIONS (continued)

CONTAINERS. ISOLATE FROM INCOMPATIBLE MATERIALS.

SPECIAL PRECAUTIONS
NOTE: WHEN USING SODIUM AZIDE IN ORGANIC SYNTHESIS REACTIONS, PRODUCTION OF SIGNIFICANT AMOUNTS OF HYDRAZOIC ACID IS POSSIBLE. HYDRAZOIC ACID IS A HIGH EXPLOSION RISK.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: SODIUM AZIDE
HAZARD CLASS: POISON B
UN/NA: UN1687 REPORTABLE QUANTITY: 1000 LBS.
LABELS: POISON
REGULATORY REFERENCES: 49CFR 172.101; 173.375

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: SODIUM AZIDE
HAZARD CLASS: 6.1 I.M.O. PAGE: 6224
UN: UN1687 MARINE POLLUTANTS: NO PACKAGING GROUP: II
LABELS: POISON
REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: SODIUM AZIDE
HAZARD CLASS: 6.1
UN: UN1687 PACKAGING GROUP: II
LABELS: POISON
REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE COMPANY ASSUMES LEGAL RESPONSIBILITY.=== THE INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION,

INVESTIGATION, AND VERIFICATION. ANY USE OF THE INFORMATION MUST BE DETERMINED BY THE USER TO BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS 49CFR

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49 CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 28500000007

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

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SODIUM AZIDE MAY REACT WITH LEAD OR COPPER PLUMBING TO FORM EXPLOSIVE METAL AZIDES (EVEN WHEN PRESENT IN SMALL AMOUNTS), WITH ACIDS, TO FORM POISONOUS GAS. FLUSH SINK WITH COPIOUS AMOUNTS OF WATER. OCCASIONAL DECONTAMINATION WITH 10% SODIUM HYDROXIDE IS RECOMMENDED.

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: SODIUM BICARBONATE
COMMON SYNONYMS: BAKING SODA; SODIUM ACID CARBONATE
CHEMICAL FAMILY: INORGANIC SODIUM COMPOUNDS
FORMULA: NAHCO3
FORMULA WT.: 84.01
CAS NO.: 144-55-8
NIOSH/RTECS NO.: VZ0950000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 3508,5597,3506,3510,3509

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #02

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	0	NONE
FLAMMABILITY	-	0	NONE
REACTIVITY	-	1	SLIGHT
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

CAUTION

MAY CAUSE IRRITATION.
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER

2 - PRODUCT IDENTIFICATION (continued)

HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

INTERNATIONAL LABELING

DO NOT BREATHE DUST. AVOID CONTACT WITH SKIN AND EYES.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SODIUM BICARBONATE	144-55-8	99-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: 50 C (122 F)
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 2.16
(H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): MODERATE (1-10%)

% VOLATILES BY VOLUME: 0
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE CRYSTALLINE POWDER. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

5 - FIRE AND EXPLOSION HAZARD DATA (continued)

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

UNUSUAL FIRE & EXPLOSION HAZARDS
NONE IDENTIFIED.

TOXIC GASES PRODUCED
CARBON MONOXIDE, CARBON DIOXIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR SODIUM BICARBONATE 4220 MG/KG
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA (continued)

EFFECTS OF OVEREXPOSURE

INHALATION: NONE IDENTIFIED

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NONE IDENTIFIED

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
SKIN CONTACT, EYE CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: NO CHRONIC: NO FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO

6 - HEALTH HAZARD DATA (continued)

SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, HUMIDITY

INCOMPATIBLES: NONE IDENTIFIED

DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

10 - STORAGE AND HANDLING PRECAUTIONS (continued)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 28363000000

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

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EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

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IRVINE SCIENTIFIC™

IRVINE SCIENTIFIC
MATERIAL SAFETY DATA SHEET

Irvine Scientific supplies Material Safety Data Sheets for products you have purchased. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200, as well as several state and local laws and regulations, have been considered in their preparation.

All information is offered gratuitously and in good faith as accurate, but is furnished without guaranty. No claim is made that the information is all-inclusive, and it should be used only as a guide. Irvine Scientific shall not be held liable for any damage resulting from handling or from contact with the product.

SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	**9330**
Description:	**Sodium Bicarbonate 7.5% Solution**
Formulation:	75 mg/ml in water

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:		Clear, colorless solution.	
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

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SECTION VI - REACTIVITY DATA

Stability: Stable.
Conditions or Materials to Avoid: None that are established or known.
Hazardous Polymerization: To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing, safety glasses with side shields and rubber gloves. Rinse spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection: Safety glasses with side shields and gloves are recommended.
Storage: Store as recommended on label. There are no special requirements.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

Pg 1 of 5

IRVINE SCIENTIFIC
2511 DAIMLER STREET
SANTA ANA, CA 92705

DORENE STEINKRAUS
CUSTOMER SERVICE
EXT. 244

PHONE NO. 800/437-5706

FAX NO. 714/261-6522

DATE: May 13, 1996

COMPANY NAME: Kaiser Permanente

ATTENTION: Oscar Pinlac

FAX NO. 818-503-6857

IN RESPONSE TO YOUR REQUEST, PLEASE FIND THE FOLLOWING MATERIAL ENCLOSED WITH THIS FAX.

PLEASE LET ME KNOW IF I CAN BE OF FURTHER SERVICE.

_____ CERTIFICATE OF ANALYSIS(S)

✓ MATERIAL SAFETY DATA SHEET(S)

9240

9330

_____ OTHER

Ph: 818-503 6852

J.T.BAKER MSDS
MSDS for SODIUM HYDROXIDE

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: SODIUM HYDROXIDE
COMMON SYNONYMS: CAUSTIC SODA; SODIUM HYDRATE; LYE
CHEMICAL FAMILY: INORGANIC SODIUM COMPOUNDS
FORMULA: NAOH
FORMULA WT.: 40.00
CAS NO.: 1310-73-2
NIOSH/RTECS NO.: WB4900000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 5104,5312,3730,5045,3728,3723,3736,3729,3734,5565,3722,5022 3721,3726,3718

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EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #05

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	3	SEVERE (POISON)
FLAMMABILITY	-	0	NONE
REACTIVITY	-	2	MODERATE
CONTACT	-	4	EXTREME (CORROSIVE)

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

U.S. PRECAUTIONARY LABELING

POISON DANGER
HARMFUL IF INHALED. CAUSES SEVERE BURNS. MAY BE FATAL IF SWALLOWED. REACTS

2 - PRODUCT IDENTIFICATION (continued)

VIOLENTLY WITH WATER AND ACIDS.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING. AVOID SPATTERING BY SLOWLY ADDING TO SOLUTION. AVOID BREATHING DUST. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

INTERNATIONAL LABELING

CAUSES SEVERE BURNS.
KEEP OUT OF REACH OF CHILDREN. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION.

PRECAUTIONARY LABELING (CONTINUED)

SAF-T-DATA* STORAGE COLOR CODE: WHITE STRIPE (STORE SEPARATELY)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SODIUM HYDROXIDE	1310-73-2	98-100	2 MG/M	2 MG/M

THE TLV AND PEL LISTED DENOTE CEILING LIMITS.

4 - PHYSICAL DATA

BOILING POINT: 1390 C (2534 F)
(AT 760 MM HG)

VAPOR PRESSURE (MMHG): <1
(20 C)

MELTING POINT: 318 C (604 F)
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 2.13
(H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): APPRECIABLE (>10%)

% VOLATILES BY VOLUME: 0
(21 C)

PH: 14.0 (1.0M SOLUTION)

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

4 - PHYSICAL DATA (continued)

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE PELLETS OR FLAKES. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A NFPA 704M RATING: 3-0-1

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. FLOOD WITH WATER SPRAY TO PREVENT SPLASHING OF MATERIAL.

UNUSUAL FIRE & EXPLOSION HAZARDS
CONTACT WITH MOISTURE OR WATER MAY GENERATE SUFFICIENT HEAT TO IGNITE COMBUSTIBLE MATERIALS. REACTS WITH MOST METALS TO PRODUCE HYDROGEN GAS, WHICH CAN FORM AN EXPLOSIVE MIXTURE WITH AIR.

TOXIC GASES PRODUCED
NONE IDENTIFIED

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 2 MG/M

TLV LISTED DENOTES CEILING LIMIT.

6 - HEALTH HAZARD DATA (continued)

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 2 MG/M

PEL LISTED DENOTES CEILING LIMIT.

TOXICITY OF COMPONENTS

INTRAPERITONEAL MOUSE LD50 FOR SODIUM HYDROXIDE 40 MG/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: SEVERE IRRITATION OR BURNS OF RESPIRATORY SYSTEM, PULMONARY EDEMA, LUNG INFLAMMATION, MAY CAUSE RESPIRATORY SYSTEM DAMAGE

SKIN CONTACT: SEVERE IRRITATION OR BURNS

EYE CONTACT: SEVERE IRRITATION OR BURNS, PERMANENT EYE DAMAGE

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: IS HARMFUL AND MAY BE FATAL. SEVERE BURNS TO MOUTH, THROAT, AND STOMACH, NAUSEA, VOMITING

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
EYES, SKIN, RESPIRATORY SYSTEM, LUNGS

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
DAMAGED SKIN

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, EYE CONTACT, SKIN CONTACT

6 - HEALTH HAZARD DATA (continued)

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER. FOLLOW WITH DILUTED VINEGAR, FRUIT JUICE OR WHITES OF EGGS BEATEN WITH WATER.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE RE-USE.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

NOTES TO PHYSICIAN
IN CASES OF SEVERE ESOPHAGEAL CORROSION, THE USE OF THERAPEUTIC DOSES OF STEROIDS SHOULD BE CONSIDERED. GENERAL SUPPORTIVE MEASURES WITH CONTINUAL MONITORING OF GAS EXCHANGE, ACID-BASE BALANCE, ELECTROLYTES, AND FLUID INTAKE ARE ALSO REQUIRED.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE:	NO	
CERCLA HAZARDOUS SUBSTANCE:	YES	CONTAINS SODIUM HYDROXIDE (RQ = 1000 LBS)
SARA 313 TOXIC CHEMICALS:	YES	CONTAINS SODIUM HYDROXIDE
GENERIC CLASS:		GENERIC CLASS REMOVED FROM CFR: 7/1/91
TSCA INVENTORY:	YES	

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE

INCOMPATIBLES: WATER, STRONG ACIDS, MOST COMMON METALS, COMBUSTIBLE MATERIALS, ORGANIC MATERIALS, ZINC, ALUMINUM, PEROXIDES, HALOGENATED HYDROCARBONS

7 - REACTIVITY DATA (continued)

DECOMPOSITION PRODUCTS: NONE IDENTIFIED

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.

J. T. BAKER NEUTRACIT(R)-2 OR BUCAIM(R) CAUSTIC NEUTRALIZERS ARE RECOMMENDED SPILLS OF THIS PRODUCT.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER: D002, D003 (CORROSIVE, REACTIVE WASTE)

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION:	USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.
RESPIRATORY PROTECTION:	RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO 100 PPM, A HIGH-EFFICIENCY PARTICULATE RESPIRATOR IS RECOMMENDED. ABOVE THIS LEVEL, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.
EYE/SKIN PROTECTION:	SAFETY GOGGLES, UNIFORM, APRON, NEOPRENE GLOVESARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: WHITE STRIPE (STORE SEPARATELY)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. STORE IN CORROSION-PROOF AREA. STORE IN A DRY AREA. ISOLATE FROM INCOMPATIBLE MATERIALS.

10 - STORAGE AND HANDLING PRECAUTIONS (continued)

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: SODIUM HYDROXIDE, SOLID
HAZARD CLASS: 8
UN/NA: UN1823 REPORTABLE QUANTITY: 1000 LBS. PACKAGING GROUP: II
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: SODIUM HYDROXIDE, SOLID
HAZARD CLASS: 8 I.M.O. PAGE: 8225
UN: UN1823 MARINE POLLUTANTS: NO PACKAGING GROUP: II
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: SODIUM HYDROXIDE, SOLID
HAZARD CLASS: 8
UN: UN1823 PACKAGING GROUP: II
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE COMPANY ASSUMES LEGAL RESPONSIBILITY.=== THE INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION. ANY USE OF THE INFORMATION MUST BE DETERMINED BY THE USER TO BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS 49CFR 171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49 CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 28151100008

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

MSDS Number: **S4034** * * * * * *Effective Date: 08/02/01* * * * * *Supercedes: 08/20/98*

MSDS *Material Safety Data Sheet*

From: **Mallinckrodt Baker, Inc.**
222 Red School Lane
Phillipsburg, NJ 08865

Mallinckrodt CHEMICALS J.T.Baker

24 Hour Emergency Telephone 908-859-2151
CHEMTREC 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

SODIUM HYDROXIDE

1. Product Identification

Synonyms: Caustic soda; lye; sodium hydroxide solid; sodium hydrate
CAS No.: 1310-73-2
Molecular Weight: 40.00
Chemical Formula: NaOH
Product Codes:
J.T. Baker: 3717, 3718, 3721, 3722, 3723, 3728, 3734, 3736, 5045, 5565
Mallinckrodt: 7001, 7680, 7708, 7712, 7772, 7798

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Hydroxide	1310-73-2	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

POISON! DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES BURNS TO ANY AREA OF CONTACT. REACTS WITH WATER, ACIDS AND OTHER MATERIALS.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES
Storage Color Code: White Stripe (Store Separately)

Potential Health Effects

Inhalation:
Severe irritant. Effects from inhalation of dust or mist vary from mild irritation to serious damage of the upper respiratory tract, depending on severity of exposure. Symptoms may include sneezing, sore throat or runny nose. Severe pneumonitis may occur.
Ingestion:
Corrosive! Swallowing may cause severe burns of mouth, throat, and stomach. Severe scarring of tissue and death may result. Symptoms may include bleeding, vomiting, diarrhea, fall in blood pressure. Damage may appears days after exposure.
Skin Contact:
Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.
Eye Contact:
Corrosive! Causes irritation of eyes, and with greater exposures it can cause burns that may result in permanent impairment of vision, even blindness.

Chronic Exposure:
Prolonged contact with dilute solutions or dust has a destructive effect upon tissue.
Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

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4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion:
DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:
Perform endoscopy in all cases of suspected sodium hydroxide ingestion. In cases of severe esophageal corrosion, the use of therapeutic doses of steroids should be considered. General supportive measures with continual monitoring of gas exchange, acid-base balance, electrolytes, and fluid intake are also required.

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5. Fire Fighting Measures

Fire:
Not considered to be a fire hazard. Hot or molten material can react violently with water.
Can react with certain metals, such as aluminum, to generate flammable hydrogen gas.
Explosion:

Not considered to be an explosion hazard.
Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire. Adding water to caustic solution generates large amounts of heat.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Do not flush caustic residues to the sewer. Residues from spills can be diluted with water, neutralized with dilute acid such as acetic, hydrochloric or sulfuric. Absorb neutralized caustic residue on clay, vermiculite or other inert substance and package in a suitable container for disposal.
US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

---

7. Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Always add the caustic to water while stirring; never the reverse. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. Do not store with aluminum or magnesium. Do not mix with acids or organic materials.

---

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
- OSHA Permissible Exposure Limit (PEL):
2 mg/m3 Ceiling
- ACGIH Threshold Limit Value (TLV):
2 mg/m3 Ceiling

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

---

9. Physical and Chemical Properties

Appearance:
White, deliquescent pellets or flakes.

Odor:
Odorless.

Solubility:
111 g/100 g of water.

Specific Gravity:

2.13
pH:
13 - 14 (0.5% soln.)
% Volatiles by volume @ 21C (70F):
0
Boiling Point:
1390C (2534F)
Melting Point:
318C (604F)
Vapor Density (Air=1):
> 1.0
Vapor Pressure (mm Hg):
Negligible.
Evaporation Rate (BuAc=1):
No information found.

---

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Very hygroscopic. Can slowly pick up moisture from air and react with carbon dioxide from air to form sodium carbonate.
Hazardous Decomposition Products:
Sodium oxide. Decomposition by reaction with certain metals releases flammable and explosive hydrogen gas.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Sodium hydroxide in contact with acids and organic halogen compounds, especially trichloroethylene, may causes violent reactions. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts. Contact with metals such as aluminum, magnesium, tin, and zinc cause formation of flammable hydrogen gas. Sodium hydroxide, even in fairly dilute solution, reacts readily with various sugars to produce carbon monoxide. Precautions should be taken including monitoring the tank atmosphere for carbon monoxide to ensure safety of personnel before vessel entry.
Conditions to Avoid:
Moisture, dusting and incompatibles.

---

11. Toxicological Information

Irritation data: skin, rabbit: 500 mg/24H severe; eye rabbit: 50 ug/24H severe; investigated as a mutagen.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Sodium Hydroxide (1310-73-2)	No	No	None

12. Ecological Information

Environmental Fate:
No information found.
Environmental Toxicity:
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: SODIUM HYDROXIDE, SOLID
Hazard Class: 8
UN/NA: UN1823

Packing Group: II
Information reported for product/size: 300LB

International (Water, I.M.O.)

Proper Shipping Name: SODIUM HYDROXIDE, SOLID
Hazard Class: 8
UN/NA: UN1823
Packing Group: II
Information reported for product/size: 300LB

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15. Regulatory Information

--------\Chemical Inventory Status - Part 1\----------

Ingredient	TSCA	EC	Japan	Australia
Sodium Hydroxide (1310-73-2)	Yes	Yes	Yes	Yes

--------\Chemical Inventory Status - Part 2\----------

Ingredient	Korea	--Canada-- DSL	NDSL	Phil.
Sodium Hydroxide (1310-73-2)	Yes	Yes	No	Yes

--------\Federal, State & International Regulations - Part 1\----------

Ingredient	-SARA 302- RQ	TPQ	------SARA 313------ List	Chemical Catg.
Sodium Hydroxide (1310-73-2)	No	No	No	No

--------\Federal, State & International Regulations - Part 2\----------

Ingredient	-RCRA- CERCLA	261.33	-TSCA- 8(d)
Sodium Hydroxide (1310-73-2)	1000	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: Yes (Pure / Solid)

Australian Hazchem Code: 2R
Poison Schedule: S6
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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16. Other Information

NFPA Ratings: Health: **3** Flammability: **0** Reactivity: **1**
Label Hazard Warning:
POISON! DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES BURNS TO ANY AREA OF CONTACT. REACTS WITH WATER, ACIDS AND OTHER MATERIALS.
Label Precautions:
Do not get in eyes, on skin, or on clothing.
Do not breathe dust.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Label First Aid:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.
Product Use:
Laboratory Reagent.
Revision Information:
MSDS Section(s) changed since last revision of document include: 8.
Disclaimer:
****
****

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Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)

MATERIAL SAFETY DATA SHEET

Date Printed: 08/10/2004
Date Updated: 04/15/2004
Version 1.4

Section 1 - Product and Company Information

Product Name	SODIUM HYPOCHLORITE SOLUTION MIN. 10 % CL ACTIVE
Product Number	13440
Brand	RIEDEL
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
SODIUM HYPOCHLORITE	7681-52-9	No

Formula	NaOCl
Synonyms	Antiformin * B-K liquid * Carrel-dakin solution * Chloros * Chlorox * Clorox * Dakins solution * Deosan * Hyclorite * Hypochlorite solution containing >7% avaliable chlorine by wt. (UN1791) * Javex * Klorocin * Milton * Neo-cleaner * Neoseptal CL * Parozone * Purin B * Sodium chloride oxide * Sodium hypochlorite * Sodium oxychloride * Surchlor
RTECS Number:	NH3486300

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Corrosive.
Contact with acids liberates toxic gas. Causes burns.

HMIS RATING
HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 3
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician. Do not induce vomiting.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.
Store at 2-8°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.
Other: Faceshield (8-inch minimum).

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance: Physical State: Liquid

Property	Value	At Temperature or Pressure
Molecular Weight	74.44 AMU	
pH	N/A	
BP/BP Range	111 °C	760 mmHg
MP/MP Range	-30 - -20 °C	
Freezing Point	N/A	
Vapor Pressure	17.5 mmHg	20 °C
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	1.25 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Miscible.	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong acids, Organic materials, Finely powdered metals, Forms explosive mixtures with:, Amines, Ammonia, Methanol.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Chlorine.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

010790

ROUTE OF EXPOSURE

Skin Contact: Causes burns.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes burns.
Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.
Inhalation may result in spasm, inflammation and edema of the larynxand bronchi, chemical pneumonitis, and pulmonary edema.
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

TOXICITY DATA

Oral
Mouse
5800 mg/kg
LD50
Remarks: Behavioral:Change in motor activity (specific assay).
Gastrointestinal:Other changes.

IRRITATION DATA

Eyes
Rabbit
10 mg
Remarks: Moderate irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC CARCINOGEN LIST

Rating: Group 3

CHRONIC EXPOSURE - MUTAGEN

Species: Human
Dose: 100 PPM
Exposure Time: 24H
Cell Type: lymphocyte
Mutation test: Cytogenetic analysis

Species: Human
Dose: 149 MG/L
Cell Type: Embryo
Mutation test: Sister chromatid exchange

Species: Hamster
Dose: 100 MG/L
Cell Type: lung

010791

Mutation test: Cytogenetic analysis

Mutation test: Histidine reversion (Ames)

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Hypochlorite solutions
UN#: 1791
Class: 8
Packing Group: Packing Group III
Hazard Label: Corrosive
PIH: Not PIH

IATA
Proper Shipping Name: Hypochlorite solution
IATA UN Number: 1791
Hazard Class: 8
Packing Group: III

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION
Symbol of Danger: C
Indication of Danger: Corrosive.
R: 31 34
Risk Statements: Contact with acids liberates toxic gas. Causes burns.
S: 26 36/37/39 45
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Corrosive.
Risk Statements: Contact with acids liberates toxic gas. Causes burns.
Safety Statements: After contact with skin, wash immediately with plenty of soap-suds. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

010792

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
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MSDS Number: **S4034** * * * * * *Effective Date: 08/02/01* * * * * *Supercedes: 08/20/98*

MSDS *Material Safety Data Sheet*

From: **Mallinckrodt Baker, Inc.**
222 Red School Lane
Phillipsburg, NJ 08865

Mallinckrodt CHEMICALS | J.T.Baker

24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. and Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

SODIUM HYDROXIDE

1. Product Identification

Synonyms: Caustic soda; lye; sodium hydroxide solid; sodium hydrate
CAS No.: 1310-73-2
Molecular Weight: 40.00
Chemical Formula: NaOH
Product Codes:
J.T. Baker: 3717, 3718, 3721, 3722, 3723, 3728, 3734, 3736, 5045, 5565
Mallinckrodt: 7001, 7680, 7708, 7712, 7772, 7798

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Sodium Hydroxide	1310-73-2	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

POISON! DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES BURNS TO ANY AREA OF CONTACT. REACTS WITH WATER, ACIDS AND OTHER MATERIALS.

J.T. Baker SAF-T-DATA(tm) Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Poison)
Flammability Rating: 0 - None
Reactivity Rating: 2 - Moderate
Contact Rating: 4 - Extreme (Corrosive)
Lab Protective Equip: GOGGLES; LAB COAT; PROPER GLOVES
Storage Color Code: White Stripe (Store Separately)

Potential Health Effects

Inhalation:
Severe irritant. Effects from inhalation of dust or mist vary from mild irritation to serious damage of the upper respiratory tract, depending on severity of exposure. Symptoms may include sneezing, sore throat or runny nose. Severe pneumonitis may occur.
Ingestion:
Corrosive! Swallowing may cause severe burns of mouth, throat, and stomach. Severe scarring of tissue and death may result. Symptoms may include bleeding, vomiting, diarrhea, fall in blood pressure. Damage may appears days after exposure.
Skin Contact:
Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.
Eye Contact:
Corrosive! Causes irritation of eyes, and with greater exposures it can cause burns that may result in permanent impairment of vision, even blindness.

Chronic Exposure:
Prolonged contact with dilute solutions or dust has a destructive effect upon tissue.
Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

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4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Ingestion:
DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.
Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physician:
Perform endoscopy in all cases of suspected sodium hydroxide ingestion. In cases of severe esophageal corrosion, the use of therapeutic doses of steroids should be considered. General supportive measures with continual monitoring of gas exchange, acid-base balance, electrolytes, and fluid intake are also required.

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5. Fire Fighting Measures

Fire:
Not considered to be a fire hazard. Hot or molten material can react violently with water.
Can react with certain metals, such as aluminum, to generate flammable hydrogen gas.
Explosion:

Not considered to be an explosion hazard.
Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire. Adding water to caustic solution generates large amounts of heat.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. Do not flush caustic residues to the sewer. Residues from spills can be diluted with water, neutralized with dilute acid such as acetic, hydrochloric or sulfuric. Absorb neutralized caustic residue on clay, vermiculite or other inert substance and package in a suitable container for disposal.
US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

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7. Handling and Storage

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities. Always add the caustic to water while stirring; never the reverse. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product. Do not store with aluminum or magnesium. Do not mix with acids or organic materials.

---

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
- OSHA Permissible Exposure Limit (PEL):
2 mg/m3 Ceiling
- ACGIH Threshold Limit Value (TLV):
2 mg/m3 Ceiling

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

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9. Physical and Chemical Properties

Appearance:
White, deliquescent pellets or flakes.

Odor:
Odorless.

Solubility:
111 g/100 g of water.

Specific Gravity:

2.13
pH:
13 - 14 (0.5% soln.)
% Volatiles by volume @ 21C (70F):
0
Boiling Point:
1390C (2534F)
Melting Point:
318C (604F)
Vapor Density (Air=1):
> 1.0
Vapor Pressure (mm Hg):
Negligible.
Evaporation Rate (BuAc=1):
No information found.

---

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Very hygroscopic. Can slowly pick up moisture from air and react with carbon dioxide from air to form sodium carbonate.
Hazardous Decomposition Products:
Sodium oxide. Decomposition by reaction with certain metals releases flammable and explosive hydrogen gas.
Hazardous Polymerization:
Will not occur.
Incompatibilities:
Sodium hydroxide in contact with acids and organic halogen compounds, especially trichloroethylene, may causes violent reactions. Contact with nitromethane and other similar nitro compounds causes formation of shock-sensitive salts. Contact with metals such as aluminum, magnesium, tin, and zinc cause formation of flammable hydrogen gas. Sodium hydroxide, even in fairly dilute solution, reacts readily with various sugars to produce carbon monoxide. Precautions should be taken including monitoring the tank atmosphere for carbon monoxide to ensure safety of personnel before vessel entry.
Conditions to Avoid:
Moisture, dusting and incompatibles.

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11. Toxicological Information

Irritation data: skin, rabbit: 500 mg/24H severe; eye rabbit: 50 ug/24H severe; investigated as a mutagen.

--------\Cancer Lists\----------

Ingredient	---NTP Carcinogen--- Known	Anticipated	IARC Category
Sodium Hydroxide (1310-73-2)	No	No	None

12. Ecological Information

Environmental Fate:
No information found.
Environmental Toxicity:
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: SODIUM HYDROXIDE, SOLID
Hazard Class: 8
UN/NA: UN1823

Packing Group: II
Information reported for product/size: 300LB

International (Water, I.M.O.)

Proper Shipping Name: SODIUM HYDROXIDE, SOLID
Hazard Class: 8
UN/NA: UN1823
Packing Group: II
Information reported for product/size: 300LB

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15. Regulatory Information

--------\Chemical Inventory Status - Part 1\----------

Ingredient	TSCA	EC	Japan	Australia
Sodium Hydroxide (1310-73-2)	Yes	Yes	Yes	Yes

--------\Chemical Inventory Status - Part 2\----------

Ingredient	--Canada-- Korea	DSL	NDSL	Phil.
Sodium Hydroxide (1310-73-2)	Yes	Yes	No	Yes

--------\Federal, State & International Regulations - Part 1\----------

Ingredient	-SARA 302- RQ	TPQ	------SARA 313------ List	Chemical Catg.
Sodium Hydroxide (1310-73-2)	No	No	No	No

--------\Federal, State & International Regulations - Part 2\----------

Ingredient	-RCRA- CERCLA	261.33	-TSCA- 8(d)
Sodium Hydroxide (1310-73-2)	1000	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: Yes (Pure / Solid)

Australian Hazchem Code: 2R
Poison Schedule: S6
WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

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16. Other Information

NFPA Ratings: Health: **3** Flammability: **0** Reactivity: **1**
Label Hazard Warning:
POISON! DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES BURNS TO ANY AREA OF CONTACT. REACTS WITH WATER, ACIDS AND OTHER MATERIALS.
Label Precautions:
Do not get in eyes, on skin, or on clothing.
Do not breathe dust.
Keep container closed.
Use only with adequate ventilation.
Wash thoroughly after handling.
Label First Aid:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. In all cases get medical attention immediately.
Product Use:
Laboratory Reagent.
Revision Information:
MSDS Section(s) changed since last revision of document include: 8.
Disclaimer:
****
****

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Prepared by: Environmental Health & Safety
Phone Number: (314) 654-1600 (U.S.A.)

1 - Site Specific Information

REFRIGERATED STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: SPUTOLYSIN, 0.3% DITHIOTHREITOL IN 0.02M EDTA pH 7.0

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#
DITHIOTHREITOL	0.3	27565-41-9
EDTA, DISODIUM SALT, DIHYDRATE	0.74	6381-92-6
H2O	98.96	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X			0	0	0	0

SPECIAL HAZARD RATING: NONE

5 - Section IV - Storage and Stability

STORAGE: REFRIGERATE

STABILITY: 3 YEARS

MANUFACTURED BY:
UNISOURCE WORLDWIDE, INC./
DIVISION OF GEORGIA PACIFIC CORP.
133 PEACHTREE ST. NE
ATLANTA, GA 30303

PRODUCT NAME: ALLSTAR SATIN STAINLESS STEEL CLEANER
PRODUCT NUMBER: U17972
DATE ISSUED: 07/01/2002
SUPERSEDES:

24 HR. EMERGENCY NO.: 888-660-6737

NFPA RATING: HEALTH-2; FLAMMABILITY-2; REACTIVITY-0; SPECIAL--
HMIS RATING: HEALTH-2; FLAMMABILITY-2; REACTIVITY-0; PERSONAL PROTECTION-B

DOT HAZARD CLASSIFICATION: NON-REGULATED WHEN SHIPPED VIA DOMESTIC GROUND IN CONTAINERS 119 GALLONS OR LESS

IDENTITY (TRADE NAME AS USED ON LABEL):
ALLSTAR SATIN STAINLESS STEEL CLEANER (U17972)

MSDS NUMBER: B00141 REVISION - 1
DATE PREPARED: 07/01/2002 PREPARED BY: IB
NOTICE: JUDGMENT BASED ON INDIRECT TEST DATA

COMPONENTS - CHEMICAL NAMES AND COMMON NAMES (HAZARDOUS COMPONENTS 1% OR GREATER; CARCINOGENS 0.1% OR GREATER)

	SARA III LIST	OSHA PEL (PPM)	ACGIH TLV (PPM)	CARCINOGEN REF. SOURCE**
ALIPHATIC PETROLEUM DISTILLATES CAS NUMBER: 64742-96-7	NO	N/E	N/E	D
PETROLEUM OIL CAS NUMBER: 64742-54-7	NO	5 MG/M3 MIST	5 MG/M3 MIST	D

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: N/D
SPECIFIC GRAVITY (H20=1): 0.85
VAPOR PRESSURE: PSIG @ 70 F (AEROSOLS): N/A
VAPOR PRESSURE (NON-AEROSOLS)(MM HG AND TEMPERATURE): N/D
VAPOR DENSITY (AIR=1): GT 1
EVAPORATION RATE (=1): N/D
SOLUBILITY IN WATER: INSOLUBLE
WATER REACTIVE: NO
APPEARANCE AND ODOR: CLEAR, LIGHT AMBER LIQUID WITH A LEMON FRAGRANCE.

PRODUCT NAME: ALLSTAR SATIN STAINLESS STEEL CLEANER DATE ISSUED: 07/01/2002
PRODUCT NUMBER: U17972

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY AS PER USA FLAME PROJECTION TEST (AEROSOLS): N/A

AUTO IGNITION TEMPERATURE: N/D

FLAMMABILITY LIMITS IN AIR BY % IN VOLUME: % LEL: NA % UEL: NA

FLASH POINT AND METHOD USED (NON-AEROSOLS): APPROX 160 F (TCC)

EXTINGUISHER MEDIA: WATER SPRAY OR FOG, FOAM, DRY CHEMICAL OR CO2. DO NOT USE DIRECT WATER STREAM.

SPECIAL FIRE FIGHTING PROCEDURES: COOL FIRE EXPOSED CONTAINERS, SURROUNDING EQUIPMENT & STRUCTURES WITH WATER.

UNUSUAL FIRE & EXPLOSION HAZARDS: NONE KNOWN.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

INCOMPATIBILITY (MAT. TO AVOID): OXIDIZING MATERIALS.

CONDITIONS TO AVOID: HEAT, SPARKS, OPEN FLAME.

HAZARDOUS DECOMPOSITION PRODUCTS: OXIDES OF CARBON & UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

010805

PRODUCT NAME: ALLSTAR SATIN STAINLESS STEEL CLEANER DATE ISSUED: 07/01/2002
PRODUCT NUMBER: U17972

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: INHALATION, SKIN ABSORPTION

ACUTE EFFECTS: TOXICITY: CNS DEPRESSION PRODUCING HEADACHE, DIZZINESS, NAUSEA, AND LOSS OF CONSCIOUSNESS.

INHALATION: HIGH CONCENTRATIONS OR PROLONGED EXPOSURE TO LOWER CONCENTRATIONS MAY BE SLIGHTLY IRRITATING TO MUCOUS MEMBRANES.

EYE CONTACT: SLIGHT IRRITATION FROM SHORT TERM CONTACT. PROLONGED & REPEATED CONTACT MORE IRRITATING.

SKIN CONTACT: PROLONGED & REPEATED LIQUID CONTACT MAY RESULT IN IRRITATION AND DERMATITIS.

INGESTION: MAY RESULT IN VOMITING. ASPIRATION OF VOMITUS INTO LUNGS MUST BE AVOIDED AS LUNG CONTACT CAN RESULT IN CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.

CHRONIC EFFECTS: NONE KNOWN.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: PRE-EXISTING IRRITATION OF SKIN OR MUCOUS MEMBRANES.

EMERGENCY FIRST AID PROCEDURES

EYE CONTACT: FLUSH WITH WATER FOR 15 MINUTES. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.

SKIN CONTACT: WASH WITH SOAP AND WATER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.

INHALATION: REMOVE TO FRESH AIR. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GET MEDICAL ATTENTION.

INGESTION: DO NOT INDUCE VOMITING. DRINK 3 TO 4 GLASSES OF WATER. GET IMMEDIATE MEDICAL ATTENTION.

PRODUCT NAME: ALLSTAR SATIN STAINLESS STEEL CLEANER DATE ISSUED: 07/01/2002
PRODUCT NUMBER: U17972

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): AS REQUIRED TO PREVENT OVEREXPOSURE. USE RESPIRATOR APPROVED BY NIOSH FOR ORGANIC VAPORS.

PROTECTIVE GLOVES: AS REQUIRED TO MINIMIZE SKIN CONTACT.

EYE PROTECTION: SAFETY GLASSES OR GOGGLES.

VENTILATION REQUIREMENTS: LOCAL EXHAUST USUALLY SUFFICIENT. HOWEVER IN CONFINED SPACES, EXPLOSION PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS.

OTHER PROTECTIVE CLOTHING & EQUIPMENT: CLOTHING AS REQUIRED TO MINIMIZE SKIN CONTACT. EYEWASH STATION AND SAFETY SHOWER.

HYGIENIC WORK PRACTICES: DO NOT EAT, DRINK OR SMOKE IN WORK AREA. WASH HANDS AFTER HANDLING.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED: CONTAIN SPILL. KEEP OUT OF SURFACE WATERS & ANY SEWERS OR WATERCOURSES ENTERING OR LEADING TO SURFACE WATERS. SOAK UP WITH INERT ABSORBENT & PLACE IN PROPERLY LABELED LEAK-PROOF CONTAINERS FOR DISPOSAL.

WASTE DISPOSAL METHODS: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: STORE IN ORIGINAL SHIPPING CONTAINERS AWAY FROM HEAT, OPEN FLAME & OXIDIZING MATERIALS. KEEP CLOSED WHEN NOT IN USE.

OTHER PRECAUTIONS &/OR SPECIAL HAZARDS: KEEP OUT OF REACH OF CHILDREN. READ & FOLLOW LABEL DIRECTIONS.

WE BELIEVE THE STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE RELIABLE, BUT THEY ARE GIVEN WITHOUT WARRANTY OR GUARANTEE OF ANY KIND.

**CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN. (A) NTP (B) IARC MONOGRAPH (C) OSHA (D) NOT LISTED (E) ANIMAL DATA ONLY

010806

J.T.BAKER MSDS
MSDS for SULFURIC ACID, 40-50%

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: SULFURIC ACID, 40-50%
COMMON SYNONYMS: OIL OF VITRIOL, 40-50%; HYDROGEN SULFATE, 40-50%; SULPHURIC ACID, 40-50%
CHEMICAL FAMILY: INORGANIC ACIDS
FORMULA: H_2SO_4
FORMULA WT.: 98.10
CAS NO.: 7664-93-9
NIOSH/RTECS NO.: WS5600000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 9677,9696,5253

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 05/07/93 ISSUED: 10/01/94
REVISION #02

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	3	SEVERE (POISON)
FLAMMABILITY	-	0	NONE
REACTIVITY	-	3	SEVERE (WATER REACTIVE)
CONTACT	-	4	EXTREME (CORROSIVE)

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

U.S. PRECAUTIONARY LABELING

POISON DANGER
CAUSES SEVERE BURNS. REACTS VIOLENTLY WITH WATER. HARMFUL IF SWALLOWED OR

2 - PRODUCT IDENTIFICATION (continued)

INHALED. CONTACT WITH OTHER MATERIALS MAY CAUSE FIRE.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. LOOSEN CLOSURE CAUTIOUSLY. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF SPILL NEUTRALIZE WITH SODA ASH OR LIME AND PLACE IN DRY CONTAINER.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

PRECAUTIONARY LABELING (CONTINUED)

SAF-T-DATA* STORAGE COLOR CODE: WHITE (CORROSIVE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SULFURIC ACID	7664-93-9	40-50	1 MG/M	1 MG/M
WATER	7732-18-5	50-60	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: N/A

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 1.40 (H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): COMPLETE (100%)

% VOLATILES BY VOLUME: 100 (21 C)

PH: 1.0 (0.1M SOLUTION)

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: LIQUID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: CLEAR, COLORLESS TO YELLOW LIQUID. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A NFPA 704M RATING: 3-0-2 W

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE DRY CHEMICAL OR CARBON DIOXIDE. DO NOT USE WATER.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. DO NOT GET WATER INSIDE CONTAINERS.

UNUSUAL FIRE & EXPLOSION HAZARDS
REACTS WITH MOST METALS TO PRODUCE HYDROGEN GAS, WHICH CAN FORM AN EXPLOSIVE MIXTURE WITH AIR. A VIOLENT EXOTHERMIC REACTION OCCURS WITH WATER. SUFFICIENT HEAT MAY BE PRODUCED TO IGNITE COMBUSTIBLE MATERIALS.

TOXIC GASES PRODUCED
SULFUR DIOXIDE, HYDROGEN

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 1 MG/M

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 1 MG/M

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR SULFURIC ACID	2140 MG/KG
INHALATION-2HR MOUSE LC50 FOR SULFURIC ACID	320 MG/M
INHALATION-2HR RAT LC50 FOR SULFURIC ACID	510 MG/M
INTRAPERITONEAL MOUSE LD50 FOR WATER	190 G/KG

6 - HEALTH HAZARD DATA (continued)

INTRAVENOUS MOUSE LD50 FOR WATER 25 G/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: SEVERE IRRITATION OR BURNS OF RESPIRATORY SYSTEM, PULMONARY EDEMA, LUNG INFLAMMATION

SKIN CONTACT: SEVERE BURNS

EYE CONTACT: SEVERE BURNS

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NAUSEA, VOMITING, SEVERE BURNS TO MOUTH, THROAT, AND STOMACH, KIDNEY DISFUNCTION

CHRONIC EFFECTS: LUNG DAMAGE

TARGET ORGANS
RESPIRATORY SYSTEM, LUNGS, EYES, SKIN, TEETH, KIDNEYS

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
RESPIRATORY SYSTEM DISEASE

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, EYE CONTACT, SKIN CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LARGE AMOUNTS OF WATER.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED

6 - HEALTH HAZARD DATA (continued)

CLOTHING AND SHOES. WASH CLOTHING BEFORE RE-USE.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) CLASSIFIED "STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID" AS A CATEGORY 1 CARCINOGEN, A SUBSTANCE THAT IS "CARCINOGENIC TO HUMANS." THIS CLASSIFICATION IS FOR INORGANIC ACID MISTS ONLY AND DOES NOT APPLY TO SULFURIC ACID OR SULFURIC ACID SOLUTIONS. THE BASIS FOR THE IARC CLASSIFICATION RESTS ON SEVERAL EPIDEMIOLOGY STUDIES WHICH HAVE SEVERAL DEFICIENCIES. THESE STUDIES DID NOT ACCOUNT FOR EXPOSURE TO OTHER SUBSTANCES, SOME KNOWN TO BE ANIMAL OR POTENTIAL HUMAN CARCINOGENS, SOCIAL INFLUENCES (SMOKING OR ALCOHOL CONSUMPTION) AND INCLUDED SMALL NUMBERS OF SUBJECTS. BASED ON THE OVERALL WEIGHT OF EVIDENCE FROM ALL HUMAN AND CHRONIC ANIMAL STUDIES, NO DEFINITIVE CAUSAL RELATIONSHIP BETWEEN SULFURIC ACID MIST EXPOSURE AND RESPIRATORY TRACT CANCER HAS BEEN SHOWN.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: YES

EXTREMELY HAZARDOUS SUBSTANCE:	YES	CONTAINS SULFUR ACID (RQ = 1,000 LBS, TPQ = 1,000 LBS)
CERCLA HAZARDOUS SUBSTANCE:	YES	CONTAINS SULFURIC ACID (RQ = 1000 LBS)
SARA 313 TOXIC CHEMICALS:	YES	CONTAINS SULFURIC ACID
GENERIC CLASS:		GENERIC CLASS REMOVED FROM CFR: 7/1/91
TSCA INVENTORY:	YES	

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE, HEAT

INCOMPATIBLES: WATER, MOST COMMON METALS, ORGANIC MATERIALS, STRONG REDUCING AGENTS, COMBUSTIBLE MATERIALS, STRONG BASES, CARBONATES, SULFIDES, CYANIDES, STRONG OXIDIZING AGENTS, CARBIDES

DECOMPOSITION PRODUCTS: OXIDES OF SULFUR, HYDROGEN

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. DO NOT USE WATER.
NEUTRALIZE SPILL AND/OR WASHINGS WITH SODA ASH OR LIME.
WITH CLEAN SHOVEL, PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER.
MOVE CONTAINER(S) FROM SPILL AREA.

J. T. BAKER NEUTRASORB(R) OR TEAM(R) 'LOW NA+' ACID NEUTRALIZERS ARE FOR SPILLS OF THIS PRODUCT.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER: D002, D003 (CORROSIVE, REACTIVE WASTE)

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION:	USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.
RESPIRATORY PROTECTION:	NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION EXCEEDS TLV, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.
EYE/SKIN PROTECTION:	SAFETY GOGGLES AND FACE SHIELD, UNIFORM,PROTECTIVE SUIT, RUBBER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: WHITE (CORROSIVE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. STORE IN CORROSION-PROOF AREA. KEEP CONTAINERS OUT OF SUN AND AWAY FROM HEAT. ISOLATE FROM INCOMPATIBLE MATERIALS.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: SULFURIC ACID
HAZARD CLASS: 8
UN/NA: UN1830 REPORTABLE QUANTITY: 1000 LBS. PACKAGING GROUP: II
LABELS: 8 CORROSIVE
REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: SULPHURIC ACID, LESS THAN 51% ACID
HAZARD CLASS: 8 I.M.O. PAGE: 8230
UN: UN2796 MARINE POLLUTANTS: NO PACKAGING GROUP: II
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: SULFURIC ACID
HAZARD CLASS: 8
UN: UN1830 PACKAGING GROUP: II
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE COMPANY ASSUMES LEGAL RESPONSIBILITY.=== THE INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION. ANY USE OF THE INFORMATION MUST BE DETERMINED BY THE USER TO BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS 49CFR

171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49 CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 28070000001

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

MATERIAL SAFETY DATA SHEET

E.I. DuPont de Nemours & Co., Inc.
DuPont - NEN Research Products
549 Albany Street
Boston MA 02118

Product and Safety Information: (617) 482-9595
Medical Emergency : (800) 441-3637
Emergency Transportation : Chemtrec: (800) 424-9300
If in D.C.: (202) 483-7616

MATERIAL IDENTIFICATION

SULFURIC ACID

MSDS NUMBER :**MSDS 2731**, DU000051

Revision Date : 24-Feb-92

MANUFACTURER/DISTRIBUTOR
Du Pont
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS
PRODUCT INFORMATION : 1-800-441-9442
TRANSPORT EMERGENCY : CHEMTREC: 1-800-424-9300
MEDICAL EMERGENCY : 1-800-441-3637

GRADE : 77 to 100 % TECHNICAL
CHEMICAL FAMILY : MINERAL ACID

TRADE NAMES / SYNONYMS
DIHYDROGEN SULFATE
OIL OF VITRIOL
SULPHURIC ACID
VITRIOL BROWN OIL
CC0083

CAS NAME : SULFURIC ACID
CAS NUMBER : 7664-93-9
FORMULA : H2SO4
MOLECULAR WEIGHT : 98.08
TSCA INVENTORY STATUS : Reported/Included
NFPA RATINGS : Health: 3 Flammability: 0 Reactivity: 2 Water Reactive
NPCA-HMIS RATINGS : Health: 3 Flammability: 0 Reactivity: 2 Personal Protection rating to be supplied by user depending on use conditions.

COMPONENTS

Material	CAS Number	%
*SULFURIC ACID	7664-93-9	
60 DEG TECHNICAL		77.7
66 DEG TECHNICAL		93.2
1.835 ELECTROLYTE		93.2

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98% TECHNICAL		98
99% TECHNICAL		99
100% TECHNICAL		100
WATER	7732-18-5	0-22

(COMPONENTS - Continued)

* Regulated as a Toxic Chemical under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

PHYSICAL DATA

Boiling Point : 193 to 327 deg C (380 to 621 deg F) at 760 mm Hg.
Vapor Pressure : <0.3 mm Hg at 25 deg C (77 deg F)
: <0.6 mm Hg at 38 deg C (100 deg F)
Vapor Density : 3.4
Melting Point : -35 to 11 deg C (-31 to 51 deg F)
Evaporation Rate : (Butyl Acetate = 1.0) Less than 1
Water Solubility : 100 WT %
pH : Less than 1
Odor : Odorless
Form : Oily; clear to turbid liquid
Color : Colorless to light gray

GRADE	BOILING PT. DEG C	BOILING PT. DEG F	MELTING PT. DEG C	MELTING PT. DEG F	SPECIFIC GRAVITY
60 DEG TECHNICAL	193	380	-12	10	1.706
66 DEG TECHNICAL	279	535	-35	-31	1.835
1.835 ELECTROLYTE	279	535	-35	-31	1.835
98% TECHNICAL	327	621	-2	29	1.844
99% TECHNICAL	310	590	4	40	1.842
100% TECHNICAL	274	526	11	51	1.839

HAZARDOUS REACTIVITY

Instability : Stable, but reacts violently with water and organic materials with evolution of heat.
Decomposition : Releases sulfur dioxide at extremely high temperatures.
Polymerization : Polymerization will not occur.

(HAZARDOUS REACTIVITY - Continued)

Incompatibility : Vigorous reactions with water; alkaline solutions; metals, metal powder; carbides; chlorates; fuminates; nitrates; picrates; strong oxidizing, reducing, or combustible organic materials. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, and carbides.

FIRE AND EXPLOSION DATA

Flash Point : Will not burn

FIRE AND EXPLOSION HAZARDS

Reacts with most metals, especially when dilute, to give flammable, potentially explosive hydrogen gas. Follow appropriate National Fire Protection Association (NFPA) codes.

EXTINGUISHING MEDIA

Use media appropriate for surrounding material.

Use water spray to cool containers exposed to fire; do not get water inside containers.

SPECIAL FIRE FIGHTING INSTRUCTIONS

Evacuate personnel to a safe area. Keep personnel removed and upwind of fire. Generates heat upon addition of water, with possible spattering. Wear full protective clothing. Runoff from fire control may cause pollution. Neutralize run-off with lime, soda ash, etc., to prevent corrosion of metals and formation of hydrogen gas. Wear self-contained breathing apparatus if fumes or mists are present.

HEALTH HAZARD INFORMATION

Causes severe burns to eyes, skin, and all body tissue. Eye damage may be permanent. Destruction of tissue may result from direct chemical reaction with tissue, from thermal burns, and from dehydration (removal of water) of the tissue.

ANIMAL DATA:

Inhalation 1-hour LC50: 347 ppm in rats
Oral LD50 : 2,140 mg/kg in rats

The concentrated compound is corrosive to the skin and eyes

of animals. By ingestion it is moderately toxic in animals causing corrosion of mucosal surfaces. Toxic effects

(HEALTH HAZARD INFORMATION - Continued)

described in animals from single exposures by inhalation include respiratory irritation. Animal testing indicates that this compound does not have carcinogenic, mutagenic, embryotoxic, or reproductive effects.

HUMAN HEALTH EFFECTS:

Human health effects of overexposure to the liquid by skin or eye contact may cause eye corrosion with corneal or conjunctival ulceration; or skin burns or ulceration. Ingestion of the liquid may cause severe burns to the mucous membranes of the mouth and esophagus. Repeated or prolonged contact with mists may cause eye irritation with discomfort, tearing or blurring of vision; or skin irritation with discomfort or rash. Human health effects of overexposure by inhalation may include irritation of the upper respiratory passages; or erosion of dental surfaces. Higher exposures by inhalation may lead to temporary lung irritation effects with cough, discomfort, difficulty breathing, or shortness of breath; or possibly modest initial symptoms followed in hours by severe shortness of breath, requiring prompt medical attention.

The International Agency for Research on Cancer (IARC) classified "strong inorganic acid mists containing sulfuric acid" as a Category 1 carcinogen, a substance that is "carcinogenic to humans". This classification is for inorganic acid mists only and does not apply to sulfuric acid or sulfuric acid solutions. The basis for the IARC classification rests on several epidemiology studies which have several deficiencies. These studies did not account for exposure to other substances, some known to be animal or potential human carcinogens, social influences (smoking or alcohol consumption) and included small numbers of subjects. Based on the overall weight of evidence from all human and chronic animal studies, no definitive causal relationship between sulfuric acid mist exposure and respiratory tract cancer has been shown.

Individuals with preexisting diseases of the lungs may have increased susceptibility to the toxicity of excessive exposures.

CARCINOGENICITY

None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS

SULFURIC ACID

AEL * (Du Pont): 1 mg/m3 - 8 & 12 Hr. TWA
TLV (ACGIH) : 1 mg/m3 - 8 Hr TWA
STEL: 3 mg/m3
PEL (OSHA) : 1 mg/m3 - 8 Hr TWA
(HEALTH HAZARD INFORMATION - Continued)

* AEL is Du Pont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SAFETY PRECAUTIONS

Avoid breathing vapors or mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

Keep containers closed. Do not add water to contents while in container because of violent reaction.

FIRST AID

INHALATION

If inhaled, remove to fresh air immediately and have patient lie down and remain quiet. Apply artificial respiration if breathing has stopped. Give oxygen if breathing is difficult. Call a physician.

INGESTION

If swallowed, do not induce vomiting. Give large quantities of water. Call a physician. Do not neutralize the acid. Never give anything by mouth to an unconscious person.

SKIN OR EYE CONTACT

In case of contact, immediately (within seconds) flush eyes or skin with plenty of water (preferably cold water) for at least 15 minutes while removing contaminated clothing and shoes. Call a physician. Wash clothing before reuse.

While the patient is being transported to a medical facility, apply compresses of iced water. If medical treatment must be delayed, immerse the affected area in iced water. If immersion is not practical, compresses of iced water can be applied. Avoid freezing tissues.

NOTES TO PHYSICIAN

Continued washing of the affected area with cold or iced water will be helpful in removing the last traces of sulfuric acid. Creams or ointments should not be applied before or during the washing phase of the treatment.

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Good general ventilation should be provided to keep vapor and mist concentrations below the exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Have available and wear as appropriate for exposure conditions when handling containers or operating equipment containing sulfuric acid: chemical splash goggles; full-length face shield/chemical splash goggle combination; acid-proof gauntlet gloves, apron, and boots; long sleeve wool, acrylic, or polyester clothing; acid proof suit and hood; and appropriate NIOSH/MSHA respiratory protection. In case of emergency or where there is a strong possibility of considerable exposure, wear a complete acid suit with hood, boots, and gloves. If acid vapor or mist are present and exposure limits may be exceeded, wear appropriate NIOSH/MSHA respiratory protection.

DISPOSAL INFORMATION

AQUATIC TOXICITY

48-hour TLm, flounder: 100-300 ppm

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
Superfund reportable discharge = 1000 lbs.

Stop flow if possible. Review "Fire and Explosion Hazards" and "Safety Precautions" before proceeding with clean up. Use appropriate protective equipment during clean up. Soak up small spills with dry sand, clay or diatomaceous earth. Dike large spills, and cautiously dilute and neutralize with lime or soda ash, and transfer to waste water treatment system. Prevent liquid from entering sewers, waterways, or low areas. Comply with Federal, State, and local regulations on reporting releases. The EPA reportable discharge is 1000 lbs.

WASTE DISPOSAL

Cleaned-up material may be a RCRA Hazardous Waste on disposal. Do not flush to surface water or sanitary sewer system. Comply with Federal, State, and local regulations. If approved, neutralize and transfer to waste treatment system.

SHIPPING INFORMATION

DOT/IMO

Proper Shipping Name : SULFURIC ACID*
Hazard Class : 8
UN No. : 1830
DOT/IMO Label : CORROSIVE
Special Information: DOT/IMO PLACARD: CORROSIVE
Packaging Group : II

Reportable Quantity : 1000 lbs.
Shipping Containers
Tank Car
Tank Truck
Steel Drums - 55-gallon stainless steel

*If material is shipped in quantities greater than 1000 lbs. per container, the Proper Shipping Name is RQ SULFURIC ACID.

STORAGE CONDITIONS

Keep out of sun and away from heat, sparks, and flame. Keep container tightly closed and (drum) closure up to prevent leakage. Loosen closure carefully. Relieve internal pressure when received and at least weekly thereafter. Do not use pressure to empty. Be sure closure is securely fastened before moving container. Do not wash out container or use it for other purposes; replace closure after each withdrawal and return it with empty container.

TITLE III HAZARD CLASSIFICATIONS

Acute : Yes
Chronic : Yes
Fire : No
Reactivity : Yes
Pressure : No

LISTS:

Extremely Hazardous Substance -Yes
CERCLA Hazardous Substance -Yes
Toxic Chemical -Yes

ADDITIONAL INFORMATION AND REFERENCES

For further information, see Du Pont Sulfuric Acid "Storage and Handling Bulletin".

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : W. J. Brock
Du Pont Chemicals
P. O. Box 80709, Chestnut Run
Wilmington, DE 19880-0709
302-999-4946

# Indicates updated section.

End of MSDS

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
980 South Second St.
Ronkonkoma, NY 11779
Phone: 516-467-0980
Emergency Phone: 516-467-3535

SECTION 1. - - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - - -

CATALOG #: T1150

NAME: TRITON X-100, MOLECULAR BIOLOGY REAGENT

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #: 9002-93-1

SYNONYMS

ALFENOL 3 * ALFENOL 9 * ANTAROX A-200 * CONCO NIX-100 3,6,9,12,15, 18,21,24,27,30-DECAOXATRIACONTAN-1-OL, 30-(P-(1,1,3,3-TETRAMETHYLBUTYL)PHENYL)- * HYDROL SW * HYONIC PE-250 * IGEPAL CA-630 * MARLOPHEN 820 * NEUTRONYX 605 * OCTOXINOL * OCTOXYNOL * OCTOXYNOL 3 * OCTOXYNOL 9 * OCTYL PHENOL CONDENSED WITH 12-13 MOLES ETHYLENE OXIDE * P-TERT-OCTYLPHENOXYPOLYETHOXYETHANOL * OPE 30 * PEG-9 OCTYL PHENYL ETHER * POLYETHYLENE GLYCOL MONOETHER WITH P-TERT-OCTYLPHENYL * POLYETHYLENE GLYCOL MONO(4-OCTYLPHENYL) ETHER * POLYETHYLENE GLYCOL MONO(4-TERT-OCTYLPHENYL) ETHER * POLYETHYLENE GLYCOL MONO(P-TERT-OCTYLPHENYL) ETHER * POLYETHYLENE GLYCOL MONO(P-(1,1,3,3-TETRAMETHYLBUTYL)PHENYL) ETHER * POLYETHYLENE GLYCOL OCTYLPHENOL ETHER * POLYETHYLENE GLYCOL 450 OCTYL PHENYL ETHER * POLYETHYLENE GLYCOL P-OCTYLPHENYL ETHER * POLYETHYLENE GLYCOL P-TERT-OCTYLPHENYL ETHER * POLYETHYLENE GLYCOL P-1,1,3,3-TETRAMETHYLBUTYLPHENYL ETHER * POLY(OXY-1,2-ETHANEDIYL), ALPHA-(4-(1,1,3,3-TETRAMETHYLBUTYL)PHENYL)-OMEGA-HYDROXY- (9CI) * POLYOXYETHYLENE MONO(OCTYLPHENYL) ETHER * POLYOXYETHYLENE (9) OCTYLPHENYL ETHER * POLYOXYETHYLENE (13) OCTYLPHENYL ETHER * POLY(OXYETHYLENE)P-TERT-OCTYLPHENYL ETHER * PRECEPTIN * TRITON X * TRITON X 35 * TRITON X 45 * TRITON X 100 * TRITON X 102 * TRITON X 165 * TRITON X 305 * TRITON X 405 * TRITON X 705 * TX 100 *

SECTION 3. - - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS

HARMFUL

HARMFUL IF SWALLOWED.

RISK OF SERIOUS DAMAGE TO EYES.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

WEAR SUITABLE PROTECTIVE CLOTHING.

DO NOT BREATHE VAPOR.

SECTION 4. - - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.

IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

WASH CONTAMINATED CLOTHING BEFORE REUSE.

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SECTION 5. - - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - - -

EXTINGUISHING MEDIA

WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
FOAM AND WATER SPRAY ARE EFFECTIVE BUT MAY CAUSE FROTHING.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
COVER WITH DRY LIME OR SODA ASH, PICK UP, KEEP IN A CLOSED CONTAINER AND HOLD FOR WASTE DISPOSAL.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -

CHEMICAL SAFETY GOGGLES.
RUBBER GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
AVOID CONTACT AND INHALATION.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
SEVERE EYE IRRITANT.
HARMFUL LIQUID.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR

VISCOUS COLORLESS LIQUID

PHYSICAL PROPERTIES

FLASHPOINT >230
109C

VAPOR PRESSURE: <1MM 20 C
SPECIFIC GRAVITY: 1.070
VAPOR DENSITY: >1

SECTION 10. - - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

INCOMPATIBILITIES

STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS

HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES SEVERE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND

TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
RTECS #: MD0907700
GLYCOLS, POLYETHYLENE, MONO(P-(1,1,3,3-TETRAMETHYLBUTYL)PHENYL) ETHER
IRRITATION DATA

SKN-HMN 2 MG/3D-I MLD	85DKA8 -,127,77
EYE-RBT 1 MG MOD	PSTGAW 20,16,53

TOXICITY DATA

ORL-RAT LD50:1800 MG/KG	PSTGAW 20,16,53
IVN-MUS LD50:1200 MG/KG	BCFAAI 101,173,62
UNR-MUS LD50:154 MG/KG	BEBMAE 112(10),423,91

TARGET ORGAN DATA
MATERNAL EFFECTS (OVARIES, FALLOPIAN TUBES)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - - -
DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - - -
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - - -
CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - - -
EUROPEAN INFORMATION
CAUTION: SUBSTANCE NOT YET FULLY TESTED.
HARMFUL
R 22
HARMFUL IF SWALLOWED.
R 41
RISK OF SERIOUS DAMAGE TO EYES.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.
S 23
DO NOT BREATHE VAPOR.
REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
NOHS 1974: HZD A1896; NIS 33; TNF 4670; NOS 52; TNE 24863
NOES 1983: HZD X7316; NIS 95; TNF 15151; NOS 103; TNE 232961; TFE 97685
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1995

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - - -
THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.
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010825

MATERIAL SAFETY DATA SHEET

VERIDIEN®

VERIDIEN CORPORATION
11800 28th Street North
St. Petersburg, FL 33716
1-800-345-5444

1. PRODUCT IDENTIFICATION

PRODUCT NAME	PRODUCT CLASS	PRECAUTIONS
VIRAHOL® Hospital Disinfectant/Cleaner and Instrument Presoak	Alcohol-based Disinfectant/Cleaner and Instrument Presoak	Eye irritant, flammable
Hazardous Shipping Label: DOT ORM D (< 30 kg (66 lbs.)) FLAM. LIQUID 3, UN 1987, PG III (> 30 kg (66 lbs.))	PREPARED BY: Jerome Kern, Ph.D.	TITLE: Laboratory Director

For 24-hour EMERGENCY CONTACT, call CHEMTREC - DOMESTIC: 800-424-9300; INTERNATIONAL: 703-527-3887

2. CHEMICAL INGREDIENTS (Identity Information)

HAZARDOUS COMPONENTS* Specific Chemical Identity (Common Name)

Ingredients	TLV (units)	Hazard Data	CAS NO.
EPA Reg. No. 50142-1 Isopropanol 70%	500 ppm PEL - 400 ppm	ACGIH OSHA	67-63-0

OTHER NON-HAZARDOUS COMPONENTS* Specific Chemical Identity (Common Name)

Ingredients	TLV (units)	CAS NO.
Propylene Glycol		57-55-6
Water		7732-18-5
Fragrance		N/A

3. PHYSICAL DATA

BOILING POINT (760 mm Hg): 175°F	FREEZING POINT: -16.6°F	VAPOR DENSITY (AIR=1): 1.1
SPECIFIC GRAVITY (H_2O=1): 0.8530 @ 20°C	VAPOR PRESSURE: 39.5mm Hg	VISCOSITY (@ 20°C): 1.60 centistokes
pH @ 20°C: 5.0 - 7.0	SOLUBILITY IN WATER, % BY WT.: Complete	APPEARANCE AND ODOR: Semi-clear liquid, lemon-alcohol odor
VOLATILES, % BY WEIGHT: 100	EVAPORATION RATE (Butyl Acetate=1): 2.5	

4. FIRE & EXPLOSION HAZARD DATA

FLASH POINT (Test Method): 79°F Tag Cup, ASTM D-56	AUTOIGNITION TEMPERATURE: 645°F (ASTM E-659)

FLAMMABLE LIMITS IN AIR, % BY VOLUME: (per ASTM E-681) LOWER 1.9 UPPER 10.6

EXTINGUISHING MEDIA: Use alcohol-type or all-purpose type foams by extinguisher manufacturer's recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires.

SPECIAL FIRE-FIGHTING PROCEDURES: No special firefighting procedures required. Normal procedures include wearing NIOSH/MSHA approved self-contained breathing apparatus and turnout gear	UNUSUAL FIRE & EXPLOSION HAZARDS: None

5. REACTIVITY DATA

STABILITY: STABLE ☒ UNSTABLE ☐	CONDITIONS TO AVOID: Non-reactive	INCOMPATIBILITY (Materials to avoid): Acrylics, natural leathers
HAZARDOUS DECOMPOSITION PRODUCTS: None	HAZARDOUS POLYMERIZATION: May Occur ☐ Will Not Occur ☒	CONDITIONS TO AVOID: Heat, sparks, flame

6. PRECAUTIONS (Safe Handling & Use)

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Avoid any ignition source until area of spill has been properly ventilated. Flush spills with water.

WASTE DISPOSAL METHOD:
Flush into drain and sanitary sewer; dilute with water.

PRECAUTIONS TO BE TAKEN IN HANDLING & STORAGE: In storage and dispensing avoid spillage and evaporation from the container. Caution: Flammable. Keep away from heat, sparks, and flame.	OTHER PRECAUTIONS: None

010826

7. HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: INHALATION? No SKIN? No INGESTION? Yes

HEALTH HAZARDS (Acute & chronic)
INGESTION: Large quantity may cause stomach cramps, pain, nausea, vomiting & diarrhea.
SKIN ABSORPTION: No evidence of adverse effects from available information
INHALATION: May cause mild irritation of eyes, nose and throat in a closed environment. No or minimal effect if normally ventilated.
SKIN CONTACT: No evidence of adverse effects from normal contact.
EYE CONTACT: Can cause slight irritation
EFFECTS OF REPEATED OVEREXPOSURE: No evidence of adverse effects from available information
LD_{50} EFFECTS: Nontoxic - OSHA-29 CFR 1910.1200

CARCINOGENICITY: NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO

SIGNS & SYMPTOMS OF EXPOSURE: N/A

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: N/A

EMERGENCY/FIRST AID PROCEDURES: Flush eyes with water

8. CONTROL MEASURES

RESPIRATORY PROTECTION (Specify Type): None required

WORK/HYGIENIC PRACTICES: Emergency eye wash should be available

VENTILATION: LOCAL EXHAUST N/A; MECHANICAL (General) N/A

SPECIAL: None required

OTHER: None required

PROTECTIVE GLOVES? None required

EYE PROTECTION? None required

OTHER PROTECTIVE CLOTHING OR EQUIPMENT? None required

9. SUPPLIER NOTIFICATION - SECTION 313

This product contains the following chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372.

CAS #	CHEMICAL NAME	% BY WEIGHT
67-63-0	Isopropanol	70%

10. PENNSYLVANIA WORKER & COMMUNITY RIGHT-TO-KNOW SECTION 307.2(a)

The materials in this product, which are required by Pennsylvania to be identified, are as follows:

INGREDIENTS	CAS #	% BY WEIGHT
See Page 1 for ingredients.		

All other specific chemical ingredients are held as a trade secret under the provisions of the Pennsylvania Worker and Community Right-to-Know regulations.

11. NEW JERSEY WORKER & COMMUNITY RIGHT-TO-KNOW ACT Chapter 59, Subchapter 5(8:59-5.1)

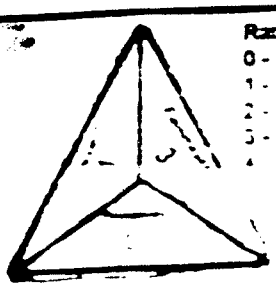
The materials in this product, which are required by New Jersey to be identified, are as follows

INGREDIENTS	CAS #
See Page 1 for ingredients.	

This information must be included in all MSDS that are copied and distributed for this material.

The information and recommendations provided in this MSDS are believed to be accurate on the date hereof. Vandam Corporation makes no representation on its correctness or accuracy. It is the user's responsibility to determine the product's suitability for its intended use. The product's safe use and proper disposal. No representation or warranties, either expressed or implied, are made with respect to the information provided in this MSDS or to the product to which such information refer.

Liability is expressly disclaimed for any loss or injury arising out of the use of this information or the use of any materials demonstrated. Safe use of the materials is the responsibility of the user.



010827

STERIS

SAFETY DATA SHEET

1. Identification of the Substance and Company

Vesphene II SE

Product No. 6461

MSDS No. 6461

NFPA 704 HAZARD RATING:

HEALTH:	3
FIRE:	1
REACTIVITY:	0

Prepared by: M. Ebers
Date Created: June 27, 2002 Date Revised: NA

STERIS Corporation, P. O. Box 147, St. Louis, MO 63166, US
Emergency Telephone No.1-314-535-1395 (STERIS); 1-800-424-9300 (CHEMTREC)
Telephone Number for Information: 1-800-548-4873 (Customer Service-Healthcare Products)

STERIS Limited, STERIS House, Jays Close, Viables, Basingstoke, Hampshire, RG22 4AX, UK
Emergency Phone No: +44 (0) 1895 622639
Product/Technical Information Phone No: +44 (0) 1256 840400

2. Composition/Information on Ingredients

Hazardous Component(s)	EEC No.	CAS No.	% By Wt.	Symbol	R Phrases
2-phenylphenol	201-993-5	90-43-7	9.09	X/N	36/37/38, 50
p-tertiary amylphenol	Not Listed	80-46-6	7.66	[C/X$_n$]	[34, 22]
Potassium hydroxide	215-181-3	1310-58-3	5.00	C/X$_n$	22, 35
Sodium hydroxide	215-185-5	1310-73-2	< 2.00	C	36/38

3. Hazards Identification: Severely irritating to eyes and skin

4. First Aid Measures
Eye Contact: Flush eyes immediately with water for at least 15 minutes. Get medical attention if irritation develops.
Skin Contact: Flush skin immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops.
Inhalation: Remove patient to fresh air. If not breathing, give artificial respiration. Get medical attention.
Ingestion: Do not induce vomiting. Get medical attention. Do not give anything by mouth to an unconscious person. If conscious, drink large quantity of milk or water.

5. Fire-Fighting Measures: **Flash Point:** Not Flammable
Extinguishing Media: Suitable for surrounding fire. **Special Fire Fighting Procedures:** None known.

6. Accidental Release Measures: Ensure suitable personal protection during removal of spillages. Spills should be contained and may be cautiously neutralized with a weak acid solution, or absorbed on appropriate material and placed in a container for disposal. Flush spill site with large quantities of water to a sanitary sewer. Washings should be prevented from entering surface water/storm drains. Local regulations should be observed.

7. Handling and Storage
7.1 Handling: Product will withstand an occasional accidental freezing. It must be thoroughly thawed and agitated (roll drum) before being used.
7.2 Storage
Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

8. Exposure Control/Personal Protection
8.1 Occupational Exposure Limits
Sodium hydroxide: ACGIH TLV and OSHA PEL = 2 mg/m^3 ceiling; UK HSE E40 STEL = 2 mg/m^3

Potassium hydroxide: ACGIH TLV = 2 mg/m^3 ceiling; ACGIH and OSHA STEL = 3 mg/m^3; UK HSE E40 STEL = 2 mg/m^3
8.2 Personal Protection
Respirator Protection: None normally required. Required if established exposure limits (Sec. 8.1) are exceeded.
Eye Protection: Safety glasses or goggles. **Protective Gloves:** Rubber.
Other Protective Clothing and Equipment: Mists of use-solutions may be irritating to nasal passages and lungs.
Ventilation: Adequate ventilation to maintain air concentrations below established limits.

9. Physical and Chemical Properties
Solubility in Water: Complete **Specific Gravity:** Approximately 1.10
Appearance/Odor: Red liquid. Mild odor. **pH:** Approximately 12.3

10. Stability and Reactivity
Stability: Stable **Hazardous Polymerization:** Will not occur.
Incompatible Materials: Reaction with acid can create heat.
Conditions to Avoid: None known.
Hazardous Decomposition or Byproducts: Forced ignition of dried residues may produce CO_2, CO, sulfur oxides

11. Toxicological Information
11.1 Acute (Primary Routes of Exposure)
Eyes: Concentrate severely irritating to eyes. 1:200 dilution slightly irritating to eyes.
Skin: Concentrate severely irritating to skin. 1:200 dilution slightly irritating to skin.
Inhalation: Inhalation toxicity >54 ml/liter at 1:200 for 4 hours. Mists may irritate nasal passages.
Ingestion: Oral LD $_{50}$ (rats) 4,500 mg/kg. Causes upset to stomach.
11.2 Long Term Exposure
Carcinogenicity: IARC, NTP and OSHA do not list this product or its ingredients as carcinogens. 2-phenylphenol produced urinary bladder tumors in male rats and liver tumors in male mice when fed exaggerated doses.

12. Ecological Information: None available

13. Disposal Considerations: Do not contaminate ponds, waterways, or ditches with chemical or used containers. Empty containers should be rinsed thoroughly and discarded in an appropriate waste container. [Containers may be offered for reconditioning/recycling.] Empty containers should not be used for other purposes. Disposal of unwanted product should be done in accordance with local, state or national legislation. Product may be flushed to a sanitary sewer with copious amounts of water, if in accordance with state, local and federal regulations. For additional guidance, contact the State Water Board or the Regional Office of the EPA.

14. Transport Information: Ground/Air/Sea: Non-hazardous

15. Regulatory Information
EEC Classification: IRRITANT/DANGEROUS FOR THE ENVIRONMENT
Hazard Symbol: Xi/N
Risk Phrases: R38: Irritating to skin. R41: Risk of serious damage to eyes. R50: Very toxic to aquatic organisms.
Safety Phrases: S2: Keep out of reach of children. S24/25: Avoid contact with skin and eyes. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37/39: Wear suitable gloves and eye/face protection. S45: In case of accident or if you feel unwell seek medical advice immediately (show label when possible). S61: Avoid release to the environment. Refer to special instructions/Safety data sheet.
USA State Regulations: May contain trace levels of formaldehyde.
US EPA Regulations: 2-phenylpehnol subject to reporting under Section 313 of Title III (SARA) and 40 CFR 372.
US EPA Registration Number: 1043-87

16. Other Information: The information on this sheet is not a specification and does not guarantee specific properties. The information is intended to prov ide general knowledge as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product or where instruction or recommendations are not followed.

NA - Not Applicable ND - No Data

0108282

ARTEL
25 Bradley Drive, Westbrook, Maine 04092-2013
tel: 207-854-0860 / fax: 207-854-0867 / email: post@artel-usa.com / web: www.artel-usa.com

MATERIAL SAFETY DATA SHEET

Product name:	PCS Calibrator Solutions	**Catalog number:**	PCS-600

Section 1 - Manufacturer Information

Manufactured by:	Artel, Inc.	**Toll Free Telephone:**	888-406-3463
Address:	25 Bradley Drive	**Telephone:**	207-854-0860
	Westbrook, ME 04092	**Date prepared:**	September 8, 1998
		Revision date:	August 5, 2004

Section 2 – Composition/Information on Ingredients

Proprietary, aqueous based solution containing the following:

Ingredient	CAS No.	Concentration or Weight %	SARA 313
Copper Chloride (II) Dihydrate	10125-13-0	≤ 0.15%	No
Phthalate buffer	None	0.1M	No
Methyl 4-hydroxybenzoate	99-76-3	0.1%	No
2-Phenoxyethanol	122-99-6	0.2%	No
EDTA	64-02-8	≤ 0.5%	No

Section 3 - Physical/Chemical Characteristics

Boiling point	N/A	Specific Gravity (H_2O = 1)	1.0
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water: Complete			
Appearance and Odor: Clear, purple aqueous solutions; odorless			

Section 4 - Fire and Explosion Hazard Data

Flash Point (Method Used): None	Flammable Limits: N/A	LEL None	UEL None
Extinguishing Media: Nonflammable			
Special Fire Fighting Procedures: N/A			
Unusual Fire and Explosion Hazards: None			

Section 5 - Reactivity Data

Stability	Unstable		Conditions to Avoid: N/A
	Stable	✓	
Incompatibility: None			
Hazardous Decomposition or Byproducts: None			
Hazardous Polymerization	May Occur		Conditions to Avoid: N/A
	Will Not Occur	✓	

Section 6 - Health Hazard Data

Route(s) of Entry: Eye, mouth or skin contact			
Health Hazards (Acute and Chronic): Eye or skin contact may prove irritating.			
Carcinogenicity: None reported	NTP? No	IARC Monographs? No	OSHA Regulated? No
Signs and Symptoms of Exposure: Purple staining. Possible irritation.			
Medical Conditions Generally Aggravated by Exposure: Not established. Unnecessary exposure should be avoided.			
Emergency and First Aid Procedures:			
Eye Contact: Immediately flush eyes with water for at least 15 minutes. Call a physician.			
Skin Contact: Immediately flush with water for at least 15 minutes. Wash with soap and water.			
Ingestion: If patient is conscious, induce vomiting and/or drink large quantities of water or milk. Call a physician.			
Inhalation: N/A			

Section 7 - Precautions for Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled:	Recover as much as possible and flush remainder to sewer.
Waste Disposal Method:	Small quantities may be disposed of in sewer. Large quantities should be disposed of in accordance with local, state or federal regulations.
Precautions to be Taken in Handling and Storage:	Prevent spillage or breakage.
Other Precautions:	No requirements other than good hygiene and safety practices employed with any laboratory reagents.

Section 8 - Control Measures

Respiratory Protection: Not required.		
Ventilation:	Local Exhaust: Normal	Special: Not required
	Mechanical: Not required	Other: Not required
Protective Gloves: Impervious gloves useful but not required.	Eye Protection: Safety glasses recommended.	
Other Protective Clothing or Equipment: Lab coat to protect clothing and minimize skin contact.		
Work/Hygienic Practices: No special practices required.		

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tel: 207-854-0860 / fax: 207-854-0867 / email: post@artel-usa.com / web: www.artel-usa.com

MATERIAL SAFETY DATA SHEET

Product name:	PCS Blank Solution	**Catalog number:** **Component of:**	PCS-231 thru PCS-236 PCS-200, PCS-210, PCS-211, PCS-212

Section 1 - Manufacturer Information

Manufactured by:	Artel, Inc.	**Toll Free Telephone:**	888-406-3463
Address:	25 Bradley Drive	**Telephone:**	207-854-0860
	Westbrook, ME 04092	**Date prepared:**	September 8, 1998
		Revision date:	August 5, 2004

Section 2 – Composition/Information on Ingredients

Proprietary, aqueous based solution containing the following:

Ingredient	CAS No.	Concentration or Weight %	SARA 313
Poly(ethylene glycol)	25322-68-3	12%	No
Copper Chloride (II) Dihydrate	10125-13-0	0.1%	No
Phthalate buffer	None	0.02M	No
Methyl 4-hydroxybenzoate	99-76-3	0.1%	No
2-Phenoxyethanol	122-99-6	0.2%	No
EDTA	64-02-8	0.4%	No

Section 3 - Physical/Chemical Characteristics

Boiling point	N/A	Specific Gravity (H_2O = 1)	1.0
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water: Complete			
Appearance and Odor: Clear, blue aqueous solution; odorless			

Section 4 - Fire and Explosion Hazard Data

Flash Point (Method Used): None	Flammable Limits: N/A	LEL None	UEL None
Extinguishing Media: Nonflammable			
Special Fire Fighting Procedures: N/A			
Unusual Fire and Explosion Hazards: None			

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Section 5 - Reactivity Data

Stability	Unstable		Conditions to Avoid: N/A
	Stable	✓	
Incompatibility: None			
Hazardous Decomposition or Byproducts: None			
Hazardous Polymerization	May Occur		Conditions to Avoid: N/A
	Will Not Occur	✓	

Section 6 - Health Hazard Data

Route(s) of Entry: Eye, mouth or skin contact			
Health Hazards (Acute and Chronic): Eye or skin contact may prove irritating.			
Carcinogenicity: None reported	NTP? No	IARC Monographs? No	OSHA Regulated? No
Signs and Symptoms of Exposure: Possible irritation.			
Medical Conditions Generally Aggravated by Exposure: Not established. Unnecessary exposure should be avoided.			
Emergency and First Aid Procedures:			
Eye Contact: Immediately flush eyes with water for at least 15 minutes. Call a physician.			
Skin Contact: Immediately flush with water for at least 15 minutes. Wash with soap and water.			
Ingestion: If patient is conscious, induce vomiting and/or drink large quantities of water or milk. Call a physician.			
Inhalation: N/A			

Section 7 - Precautions for Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled:	Recover as much as possible and flush remainder to sewer.
Waste Disposal Method:	Small quantities may be disposed of in sewer. Large quantities should be disposed of in accordance with local, state or federal regulations.
Precautions to be Taken in Handling and Storage:	Prevent spillage or breakage.
Other Precautions:	No requirements other than good hygiene and safety practices employed with any laboratory reagents.

Section 8 - Control Measures

Respiratory Protection: Not required.				
Ventilation:	Local Exhaust:	Normal	Special:	Not required
	Mechanical:	Not required	Other:	Not required
Protective Gloves: Impervious gloves useful but not required.	Eye Protection: Safety glasses recommended.			
Other Protective Clothing or Equipment: Lab coat to protect clothing and minimize skin contact.				
Work/Hygienic Practices: No special practices required.				

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tel: 207-854-0860 / fax: 207-854-0867 / email: post@artel-usa.com / web: www.artel-usa.com

MATERIAL SAFETY DATA SHEET

Product name:	PCS Sample Range Solutions	**Catalog number:** **Component of:**	PCS-221 thru PCS-226 PCS-200, PCS-210, PCS-211, PCS-212

Section 1 - Manufacturer Information

Manufactured by:	Artel, Inc.	**Toll Free Telephone:**	888-406-3463
Address:	25 Bradley Drive	**Telephone:**	207-854-0860
	Westbrook, ME 04092	**Date prepared:**	September 8, 1998
		Revision date:	August 5, 2004

Section 2 – Composition/Information on Ingredients

Proprietary, aqueous based solution containing the following:

Ingredient	CAS No.	Concentration or Weight %	SARA 313
Ponceau S (Acid Red 112)	6226-79-5	< 2%	No
Phthalate buffer	None	≤ 0.02M	No
Methyl 4-hydroxybenzoate	99-76-3	≤ 0.1%	No
2-Phenoxyethanol	122-99-6	≤ 0.2%	No
EDTA	64-02-8	≤ 0.1%	No

Section 3 - Physical/Chemical Characteristics

Boiling point	N/A	Specific Gravity (H_2O = 1)	1.0
Vapor Pressure (mm Hg.)	N/A	Melting Point	N/A
Vapor Density (AIR = 1)	N/A	Evaporation Rate (Butyl Acetate = 1)	N/A
Solubility in Water: Complete			
Appearance and Odor: Clear, red aqueous solutions; odorless			

Section 4 - Fire and Explosion Hazard Data

Flash Point (Method Used):	None	Flammable Limits:	N/A	LEL None	UEL None
Extinguishing Media:	Nonflammable				
Special Fire Fighting Procedures:	N/A				
Unusual Fire and Explosion Hazards:	None				

Section 5 - Reactivity Data

Stability	Unstable		Conditions to Avoid: N/A
	Stable	✓	
Incompatibility: None			
Hazardous Decomposition or Byproducts: None			
Hazardous Polymerization	May Occur		Conditions to Avoid: N/A
	Will Not Occur	✓	

Section 6 - Health Hazard Data

Route(s) of Entry: Eye, mouth or skin contact			
Health Hazards (Acute and Chronic): Eye or skin contact may prove irritating.			
Carcinogenicity: None reported	NTP? No	IARC Monographs? No	OSHA Regulated? No
Signs and Symptoms of Exposure: Red staining. Possible irritation.			
Medical Conditions Generally Aggravated by Exposure: Not established. Unnecessary exposure should be avoided.			
Emergency and First Aid Procedures:			
Eye Contact: Immediately flush eyes with water for at least 15 minutes. Call a physician.			
Skin Contact: Immediately flush with water for at least 15 minutes. Wash with soap and water.			
Ingestion: If patient is conscious, induce vomiting and/or drink large quantities of water or milk. Call a physician.			
Inhalation: N/A			

Section 7 - Precautions for Safe Handling and Use

Steps to be taken in Case Material is Released or Spilled:	Recover as much as possible and flush remainder to sewer.
Waste Disposal Method:	Small quantities may be disposed of in sewer. Large quantities should be disposed of in accordance with local, state or federal regulations.
Precautions to be Taken in Handling and Storage:	Prevent spillage or breakage.
Other Precautions:	No requirements other than good hygiene and safety practices employed with any laboratory reagents.

Section 8 - Control Measures

Respiratory Protection: Not required.		
Ventilation:	Local Exhaust: Normal	Special: Not required
	Mechanical: Not required	Other: Not required
Protective Gloves: Impervious gloves useful but not required.	Eye Protection: Safety glasses recommended.	
Other Protective Clothing or Equipment: Lab coat to protect clothing and minimize skin contact.		
Work/Hygienic Practices: No special practices required.		

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED AS A GUIDE ONLY. NO WARRANTY IS EXPRESSED OR IMPLIED WITH RESPECT TO THE INFORMATION PROVIDED. ARTEL SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR CONTACT WITH THE ABOVE PRODUCT.

MATERIAL SAFETY DATA SHEET
MAY BE USED TO COMPLY WITH
OSHA'S HAZARD COMMUNICATION STANDARD
CFR 1910.1200. STANDARD MUST BE
CONSULTED FOR SPECIFIC REQUIREMENTS

Cargille
Services to the Sciences Since 1924

CARGILLE LABORATORIES, INC.
55 Commerce Road • Cedar Grove, New Jersey • 07009-1289 USA
Phone: 973-239-6633 Fax: 973-239-6096 Email: CargilleLabs@aol.com URL: http://www.cargille.com

CATALOG #16482 - TYPE A ; #16484 - TYPE B

IDENTITY (AS USED ON LABEL AND MANUF. LITERATURE)	NOTE: BLANK SPACES ARE NOT PERMITTED. IF ANY ITEM IS NOT APPLICABLE, OR NO INFORMATION IS AVAILABLE, THE SPACE MUST BE MARKED TO INDICATE THAT.
CARGILLE IMMERSION OIL **TYPES A & B CODE 1248**	

SECTION 1

MANUFACTURER'S NAME CARGILLE LABORATORIES, INC.	EMERGENCY TELEPHONE NUMBER WEEKDAY 973 - 239 - 6633 24 HR CHEMTREC 800 - 424 - 9300	
ADDRESS (NUMBER, STREET, CITY, STATE, AND ZIP CODE)	TELEPHONE NUMBER FOR INFORMATION 973-239-6633	
55 COMMERCE ROAD	DATE PREPARED JUNE 3, 2002	SUPERCEDES PRIOR DATED MSDS FOR THIS MATERIAL
CEDAR GROVE, NJ 07009	SIGNATURE OF PREPARER (OPTIONAL)	

THE INFORMATION SUPPLIED IS BASED ON DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO THE INFORMATION PRESENTED AND CARGILLE LABORATORIES ASSUMES NO RESPONSIBILITY FOR THE RESULTS OF THE USE OF THIS PRODUCT. THIS INFORMATION IS FURNISHED UPON THE CONDITION THAT THE PERSON RESPONSIBLE FOR ITS USE SHALL MAKE HIS OR HER OWN DETERMINATION OF THE SUITABILITY OF THE MATERIAL FOR HIS OR HER PARTICULAR PURPOSE.

CONDITIONS OF INTENDED AND NORMAL USE: (ABBR. C.I.U.) AS A MICROSCOPE IMMERSION OIL AT NORMAL ROOM PRESSURE (760 mm HG), TEMPERATURE 45 °F TO 104 °F IN A NON MISTED / NON AIRBORN STATE IN A ROOM HAVING NORMAL AIR CHANGES, (2) / HR., IN A TRAINED AND SUPERVISED LABORATORY/INDUSTRIAL SETTING USING STANDARD GL / GM PROCEDURES. SEE SECTIONS 7 AND 8

SECTION 2 - HAZARDOUS INGREDIENTS

SPECIFIC CHEMICAL IDENTITY INFORMATION

HAZARDOUS COMPONENTS	(COMMON NAME (S))	OSHA PEL CEILING	ACGIH TLV T.W.A.	OTHER LIMITS RECOMMENDED	% (OPTIONAL)
TRADE SECRET	HYDROGENATED TERPHENYL	N.E.	5 mg / CUBIC METER *		
TRADE SECRET	TERPHENYL	5 mg / CUBIC METER *	5 mg / CUBIC METER *		
TRADE SECRET	NATURAL HYDROCARBONS	5 mg / CUBIC METER *	5 mg / CUBIC METER *	IF MISTED	
TRADE SECRET	POLYBUTENES	5 mg / CUBIC METER *	5 mg / CUBIC METER *	IF MISTED	

*PEL CEILINGS & TLV T.W.A.s IF ANY SHOULD NOT OCCUR IF C.I.U. AND SECTIONS 7 & 8 FOLLOWED.

NOTE: PRODUCT NORMALLY SOLD IN ¼OZ. TO 1 GALLON QUANTITIES. USED IN SINGLE DROP TO A FEW CUBIC CENTIMETERS PER APPLICATION. SEE REQUISITIONER FOR SPECIFIC QUANTITIES INVOLVED.

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT AT 760 mm HG 340 °C	644 °F	SPECIFIC GRAVITY (H_2O = 1) TEMP. 23 °C / 73 °F	.9
VAPOR PRESSURE IN mm HG (TEMP.) 73 °F	< 0.1	MELTING POINT	< 32 °F
VAPOR DENSITY (AIR = 1) AT (mm HG & TEMP.) 760 73 °F	ca 1	EVAPORATION RATE AT 760 mm HG & 23 °C / 73 °F (MINERAL OIL = 1)	ca 1
SOLUBILITY IN WATER AT (mm HG & TEMP.) 760 73 °F	NIL	APPEARANCE AND ODOR LIGHT YELLOW, SLIGHT CHARACTERISTIC ODOR	

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CUP METHOD USED) > 325 °F (163 °C) C.O.C.	FLAMMABLE LIMITS	LEL N.D.F.	UEL N.D.F.

EXTINGUISHING MEDIA
CARBON DIOXIDE, FOAM, DRY CHEMICAL OR ANY CLASS B AGENT

SPECIAL FIRE FIGHTING PROCEDURES
NONE

UNUSUAL FIRE AND EXPLOSION HAZARDS
NONE

ABBREVIATIONS: N.A. = NOT APPLICABLE; N.D.F. = NO DATA FOUND; TR.S. = TRADE SECRET; N.E. = NOT ESTABLISHED; C.I.U. = CONDITIONS OF INTENDED USE; < = LESS THAN; > = GREATER THAN.

FORMAT JANUARY 30,1995

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SECTION 5 - REACTIVITY DATA

STABILITY	UNSTABLE		
	STABLE	YES	

INCOMPATIBILITY (MATERIALS AND/OR CONDITIONS TO AVOID)

STRONG OXIDIZERS, HEAT ABOVE 150 °F

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	NONE

SECTION 6 - HEALTH HAZARD DATA

ROUTE (S) OF ENTRY: (NOT LIKELY AT C.I.U.)	INHALATION?	SKIN?	MUCOUS MEMBRANES / EYES?	INGESTION?
	YES	SLIGHT	SLIGHT	POSSIBLE

HEALTH HAZARDS (ACUTE AND CHRONIC)

NONE KNOWN AT C.I.U.

CARCINOGENICITY LISTED:	NTP?	IARC MONOGRAPHS?	OSHA CARCINOGEN?
	NO	NO	NO

SIGNS AND SYMPTOMS OF EXPOSURE

OILY FEEL, IF LIQUID IS MISTED OR ABOVE 150 °F (NOT A C.I.U.) HEADACHES AND NAUSEA POSSIBLE.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

N.D.F.

EMERGENCY AND FIRST AID PROCEDURES: INCLUDE POSSIBLE MATERIAL THAT MAY HAVE BEEN MIXED WITH LIQUID DURING USE.

INHALATION – (NOT LIKELY AT C.I.U.) IF CONCERN ARISES, REMOVE TO FRESH AIR.

SKIN AND CLOTHES – PROMPT SOAP AND WATER WASH.

EYES – FLUSH WITH WATER, SLIGHT TEMPORARY IRRITATION POSSIBLE (CONSULT PHYSICIAN).

INGESTION – LOW ORDER OF TOXICITY, FIRST AID NORMALLY NOT NEEDED (CONSULT PHYSICIAN).

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE – FOLLOW C.I.U. SEE SECTION 1

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

ABSORB, PLACE IN PLASTIC (POLYETHYLENE OR POLYPROPYLENE) CONTAINER, CAP OR TWIST TIE CLOSURE (SEE SECTION 8).

WASTE DISPOSAL METHOD:

ALL CHEMICAL DISPOSALS MUST BE IN ACCORDANCE WITH CURRENT LOCAL, STATE, AND FEDERAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

STORE BETWEEN 65 °F AND 90 °F (18 °C AND 32 °C)

OTHER PRECAUTIONS

AVOID CONTINUAL DIRECT SUNLIGHT, VAPORIZING OR ATOMIZING

SECTION 8 - CONTROL MEASURES; WHEN USED AS INTENDED (SEE SECTION 1)

RESPIRATORY PROTECTION (SPECIFY TYPE)

SEE "VENTILATION"

VENTILATION	LOCAL EXHAUST	SPECIAL
	*	N.A.
	MECHANICAL (GENERAL)	OTHER
	*	N.A.

PROTECTIVE GLOVES	EYE PROTECTION
* SURGICAL TYPE, IF WORN	*

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

*

* = NOT MANDATORY EXCEPT AS GOOD LABORATORY INDUSTRIAL PRACTICES.
ALWAYS USE GOOD HYGIENIC WORK / PRACTICES AS TO HOUSEKEEPING, PERSONAL HYGIENE, USE OF CHEMICAL LAB APRON AND SPLASH GOGGLES, AVOIDANCE OF VAPORS, PROLONGED AND REPEATED SKIN CONTACT.

SPECIAL PRECAUTIONS

N.A.

Cargille Labs

Services to the sciences since 1924

Tuesday Oct 19, 2004 1:36:45 PM

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["Immersion Oil and the Microscope"]

Web Resources

[FSU Microscopy Reference]: Excellent site for information on light refraction, microscopy, microphotography...

[Modern Microscopy]: A

Cargille Microscope Immersion Oils

Cargille Immersion Oils are the standard - the ones to compare with, t compete against. Cargille Laboratories has consistently led in the develo standardization of immersion oil for over 42 years. Here is the record:

When the FDA set general purpose reagent criteria under the classification of In Vitro Diagnostics in the 1970's, Cargille Immersion Oils were already in full accord. To date, no other immersion oils meet the FDA criteria. Cargille Laboratories is known to microscopists as the source of both innovation and quality.

- Developed non-drying immersion oils (1940).
- First to standardize index and temperature values.
- Developed oils of different viscosities.
- Developed low fluorescence immersion oil (1940).
- First to print key optical properties on every bottle (1942).
- First to print full tables of optical and physical properties in Data (1946).
- First nondrying immersion oil adopted by major microscope mai (AO, B&L)
- Cargille specifications adopted by U.S. Department of Defense.
- Developed the first very high viscosity oils for horizontal, inverte projecting microscopes in cooperation with US Department of H (1950).
- Developed the first PCB-free immersion oils (1971).
- Supplies oil to meet British immersion oils specifications.
- Collaborated with DIN and ISO committees in developing intern standards and served as liaison with American microscope mar
- Provides modified formulas for special applications supported b Properties Technical Bulletins.
- First to provide Material Safety Data Sheets to insure complianc OSHA.
- First to establish a Refractive Index Laboratory with primary sta computerized formulation and modeling capabilities for R&D, Q Customer Service.
- First to modify immersion oil formulations for use with various in calibration, mounting, contact and interface fluids in the fields of lasers, optometry, and optical engineering where special index, wavelength, viscosity, density and adsorption characteristics ar
- First in worldwide distribution of immersion oils.
- Foremost in supplying US and foreign microscope manufacture "accessory" oils for new instruments.

periodic on-line journal devoted to the world of microscopy. Every issue we will present articles, interviews, book reviews and columns by some of the most experienced researchers in the field.

[McCrone Institute]: Illinois not-for-profit corporation devoted to applied microscopy...

For an introduction into Immersion Oil read **["Immersion Oil and the Mi**

Need help deciding which oil to use? Read over our **[Selection Guide]**.

View **[Microscope Immersion Oil Specifications]**.

Immersion Oil Price List

Description	Cat #	Price Per Bottle 1/4 fl.oz.		1 fl.oz.	4 fl.oz.
Type A	16482	ea: $2.00	ea:	$4.60	$10.20
		36: $1.75	doz:	$4.15	$9.20
Type B	16484	ea: $2.00	ea:	$4.60	$10.20
		36: $1.75	doz:	$4.15	$9.20
Type 300	16252	ea: $2.60	ea:	$5.70	$12.50
		36: $2.30	doz:	$5.20	$11.30
Type 37	16237	ea: n/a	ea:	$5.90	$13.10
		36: n/a	doz:	$5.30	$11.80
Type NVH	16485	ea: $2.70	ea:	$5.90	$13.10
		36: $2.35	doz:	$5.30	$11.80
Type OVH	16487	ea: n/a	ea:	$5.90	$13.10
		36: n/a	doz:	$5.30	$11.80
Type DF	16242	ea: $3.35	ea:	$7.20	$16.00
		36: $3.00	doz:	$6.50	$14.40
Type HF	16245	ea: n/a	ea:	$7.20	$16.00
		36: n/a	doz:	$6.50	$14.40
Type FF	16212	ea: $3.20	ea:	$6.90	$15.30
		36: $2.85	doz:	$6.20	$13.80

All prices subject to change without notice. Please contact us to confi
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DPC MATERIAL SAFETY DATA SHEET FOR PATHODX CHALAMYDIA CULTURE CONFIRMATION PKCC1

1 PRODUCT IDENTIFICATION

TRADE NAME: PathoDx Chlamydia Culture Confirmation In-vitro Diagnostic Test Kit **PRODUCT CODE: PKCC1**

MANUFACTURER/SUPPLIER: Diagnostic Products Corporation 5700 W. 96th St., Los Angeles CA 90045
Emergency Phone Number: (310) 769-2598 Phone Number: (800) 678-6699 Fax Number: (310) 645-9999

PRODUCT COMPONENTS & CATALOG NUMBERS: Chlamydia Confirmation Reagent CC2; Mounting Fluid PDMF

PRODUCT FORMAL NAME: Diagnostic Reagent **PRODUCT CHEMICAL NAME:** Aqueous Solution

2 HAZARDOUS INGREDIENTS

Kit Component(s): CC2, PDMF

Hazardous Component	Percent	CAS Number	EEC Classification	Symbol	Index #
CC2:					
Evans Blue	<0.1% w/w	314-13-6	--	--	--
Sodium Azide (NaN_3)	<0.1% w/w	26628-22-8	--	--	--
PDMF:					
Sodium Azide (NaN_3)	<0.1% w/w	26628-22-8	--	--	--

3 HAZARD IDENTIFICATION

Evans Blue may be a potential carcinogen. If skin contact occurs, flush with water immediately.

Sodium Azide is a toxic substance. Avoid contact with components, which contain sodium azide, and do not ingest. Sodium azide may also react with lead copper plumbing to form an explosive metal azide complex. If drain disposed, dilute and flush with a copious amount of running water to prevent azide build-up. Dangerous when in contact with acid.

4 FIRST AID MEASURES

EYE CONTACT: Flush with copious amounts of fresh water for at least 15 minutes.

SKIN CONTACT: Wash well with mild soap and copious amounts of fresh water. Remove any contaminated clothing. Flush skin surface with additional water.

INGESTION: Flush mouth with copious amounts of water. Do not swallow rinse water.

INHALATION: Remove victim to fresh air. If breathing is labored, administer oxygen as needed. If victim is not breathing, administer artificial respiration or CPR.

If warranted, seek medical attention. If possible, save sample of material that caused reaction for use in determination of appropriate treatment.

5 FIRE EXTINGUISHING MEASURES

Use extinguishing media appropriate to surrounding fire. No special equipment or procedures are required. This kit does not pose an explosion hazard.

6 ACCIDENTAL RELEASE MEASURES

Absorb spills of reagents and patient samples with absorbent paper, taking care not to spread the material. Clean spill area with a freshly made 0.5% sodium hypochlorite (bleach) solution. Discard all materials used to absorb spill and disinfect area into biohazard waste collection for proper disposal.

7 HANDLING AND STORAGE

HANDLING: Do not eat, drink, smoke or apply cosmetics in laboratory areas. Do not pipet patient samples or reagents by mouth. Avoid splashing or aerosol formation. Use all reagents in accordance with the relevant package insert. Avoid high temperatures and keep from freezing during transport.

STORAGE: Store all reagents as directed in the relevant package insert.

DPC® MATERIAL SAFETY DATA SHEET FOR PATHODX CHALAMYDIA CULTURE CONFIRMATION PKCC1

8 EXPOSURE CONTROL/PERSONAL PROTECTION

Wear appropriate personal protective equipment when working with reagents or patient specimens, including lab coats, disposable gloves and eye protection. Avoid hand/mouth contact. Wash hands as soon as possible after handling reagents or patient specimens.

Control Parameters of Hazardous Ingredients:

Evans Blue: CAS # 314-13-6, RTECS # QJ6440000, NIOSH (the concentration of evans blue in this product is well below the TLV shown above).

Sodium Azide: CAS # 26628-22-8, RTECS # VY805000, TLV-Ceiling=0.3mg/m, NIOSH (the concentration of sodium azide in this product is well below the TLV shown above). Threshold limit value 1.0 ppm, TDLo (oral) 710mcg/kg, female 3mg/kg, LDLo (oral) 29mg male, LDLo (oral) 786 mg female.

9 PHYSICAL & CHEMICAL PROPERTIES

Physical State: Liquid	Color: Clear	Odor: None	pH: N/A
Boiling Point: 100°C	Melting Point: 0°C	Flash Point: N/A	Inflammability: N/A
Autoinflammability: N/A	Explosiveness: N/A	Oxidizing Properties: N/A	
Vapor Pressure: N/A	Relative Density: N/A	Solubility in water: Complete	

10 STABILITY & REACTIVITY

The reagents in the kit are stable under the storage conditions described in the package insert. Hazardous decomposition will not occur. There are no known strong incompatibilities.

11 TOXICOLOGICAL INFORMATION

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

12 ECOLOGICAL INFORMATION

Not applicable

13 DISPOSAL

Dispose in accordance with applicable laws. If drain disposed, dilute and flush with a copious amount of running water to prevent azide build-up (See Section 3).

14 TRANSPORT INFORMATION

Proper Shipping Name: In vitro diagnostic reagents
Hazard Class: None
Identification Number: UN 1687 Sodium Azide

15 REGULATORY INFORMATION

Pursuant to U.S. OSHA regulations and the EEC Directive Number 88/379, the only hazardous ingredients associated with this product are those listed in Section 2 above.

The information provided in this Material Safety Data Sheet is believed, but not warranted, to be accurate. The user should determine the suitability of this information for the intended use of the product and adopt appropriate safety precautions. Contact DPC for further information.

Date MSDS first initiated: July 20th, 1990
Date MSDS Revised: October 12th, 1998

Prepared By: J.M. Smoot, Jr.

Sections Revised: N/A

SOLUTIONS DEPARTMENT
MSDS for REAGENT ALCOHOL, 75%

1 - Site Specific Information

FLAMMABLE STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: 75% REAGENT ALCOHOL

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/ PRODUCT#
REAGENT ALCOHOL	75.0	N/A	FISHER	A962-4
WATER DI	25.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	3	2	2	4

SPECIAL HAZARD RATING: FLAMMABLE, POISON

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

**** MATERIAL SAFETY DATA SHEET ****

Reagent Alcohol
20087

**** SECTION 1.- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Reagent Alcohol
Catalog Numbers:
FFRRF
Synonyms:
Ethanol, dehydrated alcohol, ethyl hydrate, specially denatured alcohol
Company Identification: Biochemical Sciences, Inc.
100 Clarendon Drive
Swedesboro, NJ 08085
For information, call: 800-524-0294
Emergency Number: 800-524-0294
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
64-17-5	Ethyl alcohol	90.0	200-578-6
67-56-1	Methyl alcohol	5.0	200-659-6
67-63-0	Isopropyl alcohol	5.0	200-661-7

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW
Appearance: clear, colorless. Flash Point: 55 deg F.
Danger! Flammable liquid. May cause skin irritation. May cause central nervous system depression. May form explosive peroxides.
Poison! May cause respiratory and digestive tract irritation. Cannot be made non-poisonous. May cause severe eye irritation and possible injury. May cause liver and kidney damage. May be fatal or cause blindness if swallowed. May cause reproductive and fetal effects.
Vapor harmful.
Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects
Eye:
Contact with eyes may cause severe irritation, and possible eye burns. May cause painful sensitization to light. Vapors cause eye irritation.
Skin:
May cause skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May be absorbed through the skin.
Ingestion:
May be fatal or cause blindness if swallowed. Cannot be made non-poisonous. May cause irritation of the digestive tract. May cause liver and kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.
Inhalation:
Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. Prolonged exposure may result in dizziness and general weakness. May cause effects similar to those described for ingestion.
Chronic:
Prolonged or repeated eye contact may cause conjunctivitis. Prolonged or repeated skin contact may cause defatting and dermatitis. Prolonged or repeated exposure may cause adverse reproductive effects. May cause liver and kidney damage.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin:
Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion:
If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac.
Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration.
Notes to Physician:
Effects may be delayed. Ethanol may inhibit methanol metabolism.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Flammable Liquid. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May be ignited by heat, sparks, and flame. Containers may explode when heated.
Extinguishing Media:
For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.
Autoignition Temperature: 685 deg F (362.78 deg C)
Flash Point: 55 deg F (12.78 deg C)
NFPA Rating: Not published.
Explosion Limits, Lower: 3.3
Upper: 19

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks:
Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Remove all sources of ignition. Provide ventilation. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:
Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage:
Keep away from heat, sparks, and flame. Keep away from heat and flame. Keep away from sources of ignition. Store in a tightly closed container.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ethyl alcohol	1000 ppm ; 1880 mg/m3	1000 ppm TWA; 1900 mg/m3 TWA 3300 ppm IDLH (10 percent lower explosive limit)	1000 ppm TWA; 1900 mg/m3 TWA
Methyl alcohol	200 ppm ; 262 mg/m3; 250 ppm STEL; 328 mg/m3 STEL; skin - potential for cutaneous absorption	200 ppm TWA; 260 mg/m3 TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m3 TWA
Isopropyl alcohol	400 ppm ; 983 mg/m3; 500 ppm STEL; 1230 mg/m3 STEL	400 ppm TWA; 980 mg/m3 TWA 2000 ppm IDLH (10 percent lower explosive limit)	400 ppm TWA; 980 mg/m3 TWA

OSHA Vacated PELs:

010842

Ethyl alcohol:
1000 ppm TWA; 1900 mg/m3 TWA
Methyl alcohol:
200 ppm TWA; 260 mg/m3 TWA
Isopropyl alcohol:
400 ppm TWA; 980 mg/m3 TWA

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin:
Wear appropriate protective gloves to prevent skin exposure.
Clothing:
Wear appropriate protective clothing to prevent skin exposure.
Respirators:
Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Liquid
Appearance: clear, colorless
Odor: aromatic odor
pH: No data
Vapor Pressure: 44 mm Hg
Vapor Density: 1.24 kg/m3
Evaporation Rate: No data
Viscosity: 1.2 cp
Boiling Point: 173.3 deg F
Freezing/Melting Point: -173.4 deg F
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density: 0.8
Molecular Formula: CH3CH2OH
Molecular Weight: 46.0414

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable. This material may be sensitive to peroxide formation.
Conditions to Avoid:
High temperatures, incompatible materials, ignition sources.
Incompatibilities with Other Materials:
Acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (mineral, oxidizing, e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), isocyanates (e.g. methyl isocyanate), metals (alkali and alkaline, e.g. cesium, potassium, sodium), nitrides (e.g. potassium nitride, sodium nitride), peroxides and hydroperoxides (organic, e.g. acetyl peroxide, benzoyl peroxide, butyl peroxide, methyl ethyl ketone peroxide), epoxides (e.g. butyl glycidyl ether), oxidizing agents (strong, e.g. bromine, hydrogen peroxide, nitrogen dioxide, potassium nitrate), reducing agents (strong, e.g. aluminum carbide, chlorosilane, hydrogen phosphide, lithium hydride), water reactive substances (e.g. acetic anyhdride, alkyl aluminum chloride, calcium carbide, ethyl dichlorosilane), Isopropanol is susceptible to autoxidation and therefore should be classified as peroxidizable..
Hazardous Decomposition Products:
Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 64-17-5: KQ6300000
CAS# 67-56-1: PC1400000
CAS# 67-63-0: NT8050000
LD50/LC50:
CAS# 64-17-5: Inhalation, mouse: LC50 =39 gm/m3/4H; Inhalation, rat: LC50 =20000 ppm/10H; Oral, mouse: LD50 = 3450 mg/kg; Oral, rabbit: LD50 = 6300 mg/kg; Oral, rat: LD50 = 7060 mg/kg.
CAS# 67-56-1: Inhalation, rat: LC50 =64000 ppm/4H; Oral, mouse: LD50 = 7300 mg/kg; Oral, rabbit: LD50 = 14200 mg/kg; Oral, rat: LD50 = 5628 mg/kg; Skin, rabbit: LD50 = 15800 mg/kg.
CAS# 67-63-0: Oral, mouse: LD50 = 3600 mg/kg; Oral, rabbit: LD50 = 6410 mg/kg; Oral, rat: LD50 = 5045 mg/kg; Skin, rabbit: LD50 = 12800 mg/kg.
Carcinogenicity:

Ethyl alcohol -
ACGIH: A4 - Not Classifiable as a Human Carcinogen
Methyl alcohol -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Isopropyl alcohol -
IARC: Group 3 carcinogen
Epidemiology:
Methanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Specific developmental abnormalities include cardiovascular, musculoskeletal, and urogenital systems. Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collecetively been termed the "fetal alcohol syndrome".
Teratogenicity:
No data available.
Reproductive Effects:
No data available.
Neurotoxicity:
No data available.
Mutagenicity:
No data available.
Other Studies:
No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Not available.
Environmental Fate:
Ethanol: In water, it will volatilize and probably degrade.
Physical/Chemical:
Not available.
Other:
Not expected to bioconcentrate in fish.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA P-Series: None listed.
RCRA U-Series: CAS# 67-56-1: waste number U154 (Ignitable waste).

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
Shipping Name: ETHANOL SOLUTIONS
Hazard Class: 3
UN Number: UN1170
Packing Group: II
IMO
No information available.
IATA
No information available.
RID/ADR
No information available.
Canadian TDG
Shipping Name: DENATURED ALCOHOL
Hazard Class: 3
UN Number: UN1987
Other Information: FLASHPOINT 14C

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 64-17-5 is listed on the TSCA inventory.
CAS# 67-56-1 is listed on the TSCA inventory.
CAS# 67-63-0 is listed on the TSCA inventory.
Health & Safety Reporting List
CAS# 67-63-0: Effective Date: December 15, 1986; Sunset Date: December 15, 1996
Chemical Test Rules
CAS# 67-63-0: Testing required by: manufacturers; importers; processor
Section 12b
CAS# 67-63-0: export notification required - Section 4
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA
Section 302 (RQ)
CAS# 67-56-1: final RQ = 5000 pounds (2270 kg)
Section 302 (TPQ)
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 64-17-5: acute, chronic, flammable.
CAS # 67-56-1: acute, flammable.
CAS # 67-63-0: acute, chronic, flammable.
Section 313
This material contains Methyl alcohol (CAS# 67-56-1, 5 0%),which is

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subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
This material contains Isopropyl alcohol (CAS# 67-63-0, 5 0%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:
CAS# 67-56-1 is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
Ethyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
Methyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
Isopropyl alcohol can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
WARNING: This product contains Ethyl alcohol, a chemical known to the state of California to cause birth defects or other reproductive harm.
California No Significant Risk Level:
None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: Not available.
Risk Phrases:
Safety Phrases:

WGK (Water Danger/Protection)
CAS# 64-17-5: 0
CAS# 67-56-1: 1
CAS# 67-63-0: 1

Canada
CAS# 64-17-5 is listed on Canada's DSL/NDSL List.
CAS# 67-56-1 is listed on Canada's DSL/NDSL List.
CAS# 67-63-0 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of B2, D1B.
CAS# 64-17-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 67-56-1 is not listed on Canada's Ingredient Disclosure List.
CAS# 67-63-0 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits
CAS# 64-17-5: OEL-AUSTRALIA:TWA 1000 ppm (1900 mg/m3)
OEL-BELGIUM:TWA 1000 ppm (1880 mg/m3)
OEL-CZECHOSLOVAKIA:TWA 1000 mg/m3;STEL 5000 mg/m3
OEL-DENMARK:TWA 1000 ppm (1900 mg/m3)
OEL-FINLAND:TWA 1000 ppm (1900 mg/m3);STEL 1250 ppm (2400 mg/m3)
OEL-FRANCE:TWA 1000 ppm (1900 mg/m3);STEL 5000 pp
OEL-GERMANY:TWA 1000 ppm (1900 mg/m3)
OEL-HUNGARY:TWA 1000 mg/m3;STEL 3000 mg/m3
OEL-THE NETHERLANDS:TWA 1000 ppm (1900 mg/m3)
OEL-THE PHILIPPINES:TWA 1000 ppm (1900 mg/m3)
OEL-POLAND:TWA 1000 mg/m3
OEL-RUSSIA:STEL 1000 mg/m3
OEL-SWEDEN:TWA 1000 ppm (1900 mg/m3)
OEL-SWITZERLAND:TWA 1000 ppm (1900 mg/m3)
OEL-THAILAND:TWA 1000 ppm (1900 mg/m3)
OEL-TURKEY:TWA 1000 ppm (1900 mg/m3)
OEL-UNITED KINGDOM:TWA 1000 ppm (1900 mg/m3) JAN9
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m3);Skin
CAS# 67-63-0: OEL-AUSTRALIA:TWA 400 ppm (980 mg/m3);STEL 500 ppm (1225 mg/m3)
OEL-BELGIUM:TWA 400 ppm (985 mg/m3);STEL 500 ppm (1230 mg/m3)
OEL-DENMARK:TWA 200 ppm (490 mg/m3);Skin
OEL-FRANCE:STEL 400 ppm (980 mg/m3)
OEL-GERMANY:TWA 400 ppm (980 mg/m3)
OEL-JAPAN:STEL 400 ppm (980 mg/m3)
OEL-THE NETHERLANDS:TWA 400 ppm (980 mg/m3);Skin
OEL-THE PHILIPPINES:TWA 400 ppm (980 mg/m3)
OEL-RUSSIA:STEL 400 ppm (10 mg/m3)
OEL-SWEDEN:TWA 150 ppm (350 mg/m3);STEL 250 ppm (600 mg/m3)
OEL-SWITZERLAND:TWA 400 ppm (980 mg/m3);STEL 800 ppm
OEL-TURKEY:TWA 200 ppm (500 mg/m3)
OEL-UNITED KINGDOM:TWA 400 ppm (980 mg/m3);STEL 500 ppm;Skin
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 12/06/1994 Revision #12 Date: 6/19/1998

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

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SOLUTIONS DEPARTMENT
MSDS for SODIUM HYDROXIDE 1N

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I - General Information

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: SODIUM HYDROXIDE, 1N

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PROD#
SODIUM HYDROXIDE	4.0	1310-73-2	SPECTRUM	S1295
DI-WATER	96.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	3	3	2	0

SPECIAL HAZARD RATING: CORROSIVE, TOXIC

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
0 / 3 / 1	Health Hazard 3 Fire Hazard 0 Reactivity 2	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Sodium hydroxide**	Catalog Number(s).	S1301, S1302, S1303, S1305, S1308, SO170
		CAS#	1310-73-2
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	WB4900000
		TSCA	TSCA 8(b) inventory: Sodium hydroxide
Commercial Name(s)	Not available.	CI#	Not available.
Synonym	Caustic Soda	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Name	Sodium Hydroxide		
Chemical Family	Not available.		
Chemical Formula	NaOH		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Sodium hydroxide	1310-73-2	2		2	100

Toxicological Data on Ingredients

Sodium hydroxide
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects

Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	sodium hydroxide + zinc metal dust causes ignition of the latter. Under proper conditions of temperature, pressure and state of division, it can ignite or react violently with acetaldehyde, ally alcohol, allyl chloride, benzene-1,4-diol, chlorine trifluoride, 1,2 dichlorethylene, nitroethane, nitromethane, nitroparaffins, nitropropane, cinnamaldehyde, 2,2-dichloro-3,3-dimethylbutane. Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials. Phosphorous boiled with NaOH yields mixed phosphines which may ignite spontanously in air. sodium hydroxide and cinnamaldehyde + heat may cause ignition.
Special Remarks on Explosion Hazards	Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate. Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aquesous sodium hydroxide, under vacuum distillation, residue darkened and exploded. Sodium Hydroxde + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions. Dry mixtures of sodium hydroxide and sodium tetrahydroborate liberate hydrogen explosively at 230-270 deg. C. Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: **Neutralize the residue with a dilute solution of acetic acid.**
Large Spill	Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of acetic acid.** Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep locked up.. Keep container dry. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, metals, acids, alkalis, moisture.
Storage	Hygroscopic. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	STEL: 2 (mg/m^3) from ACGIH (TLV) [United States] TWA: 2 CEIL: 2 (mg/m^3) from OSHA (PEL) [United States] CEIL: 2 (mg/m^3) from NIOSH Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	Odor	Odorless.
Molecular Weight	40 g/mole	Taste	Not available.
pH (1% soln/water)	13.5 [Basic.]	Color	White.
Boiling Point	1388°C (2530.4°F)		
Melting Point	323°C (613.4°F)		
Critical Temperature	Not available.		
Specific Gravity	2.13 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Easily soluble in cold water.		

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Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials, moisture, moist air
Incompatibility with various substances	Highly reactive with metals, moisture. Reactive with oxidizing agents, reducing agents, acids, alkalis.
Corrosivity	Not available.
Special Remarks on Reactivity	Hygroscopic. Much heat is evolved when solid material is dissolved in water. Therefore cold water and caution must be used for this process. Sodium hydroxide solution and octanol + diborane during a work-up of a reaction mixture of oxime and diborane in tetrahyrofuran is very exothermic, a mild explosion being noted on one occassion. Reactive with water, acids (mineral, non-oxidizing, e.g. hydrochloric, hydrofluoric acid, muriatic acid, phosphoric), acids (mineral, oxidizing e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, foraldehyde), carbamates (e.g. carbanolate, carbofuran), esters (e.g. butyl acetate, ethyl acetate, propyl formate), halogenated organics (dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), isocyanates (e.g. methyl isocyanate), ketones (acetone, acetophenone, MEK, MIBK), acid chlorides, strong bases, strong oxidizing agents, strong reducing agents, flammable liquids, powdered metals and metals (i.e aluminum, tin, zinc, hafnium, raney nickel), metals (alkali and alkaline e.g. cesium, potassium, sodium), metal compounds (toxic e.g. berylium, lead acetate, nickel carbonyl, tetraethyl lead), mitrides (e.g. potassium nitride, sodium nitride), nitriles (e.g. acetonitrile, methyl cyanide), nitro compounds (organic e.g. nitrobenzene, nitromethane), acetic anhydride, chlorohydrin, chlorosulfonic acid, ethylene cyanohydrin, glyoxal, hydrosulfuric acid, oleum, propiolactone, acylonitrile, phorosous pentoxide, chloroethanol, chloroform-methanol, tetrahydroborate, cyanogen azide, 1,2,4,5 tetrachlorobenzene, cinnamaldehyde. Reacts with formaldehyde hydroxide to yield formic acid, and hydrogen.
Special Remarks on Corrosivity	Very caustic to aluminum and other metals in presence of moisture.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	**MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells.
Other Toxic Effects on Humans	Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (corrosive), of ingestion, .
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May affect genetic material. Investigation as a mutagen (cytogenetic analysis)
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May be harmful if absorbed through skin. Causes severe skin irritation and burns. May cause deep penetrating ulcers of the skin. Eyes: Causes severe eye irritation and burns. May cause chemical conjunctivitis and corneal damage. Inhalation: Harmful if inhaled. Causes severe irritation of the respiratory tract and mucous membranes with coughing, burns, breathing difficulty, and possible coma. Irritation may lead the chemical pneumonitis and pulmonary edema. Causes chemical burns to the respiratory tract and mucous membranes. Ingestion: May be fatal if swallowed. May cause severe and permanent damage to the digestive tract. Causes severe gastrointestinal tract irritation and burns. May cause perforation of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause corrosion and permanent destruction of the esophagus and digestive tract.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	Class 8: Corrosive material
Identification	: Sodium hydroxide, solid UNNA: 1823 PG: II
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	Illinois toxic substances disclosure to employee act: Sodium hydroxide Illinois chemical safety act: Sodium hydroxide New York release reporting list: Sodium hydroxide Rhode Island RTK hazardous substances: Sodium hydroxide Pennsylvania RTK: Sodium hydroxide Minnesota: Sodium hydroxide Massachusetts RTK: Sodium hydroxide New Jersey: Sodium hydroxide Louisiana spill reporting: Sodium hydroxide California Director's List of Hazardous Substances: Sodium hydroxide TSCA 8(b) inventory: Sodium hydroxide CERCLA: Hazardous substances.: Sodium hydroxide: 1000 lbs. (453.6 kg)
California Proposition 65 Warnings	
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications	WHMIS (Canada) CLASS E: Corrosive solid.
	DSCL (EEC) R35- Causes severe burns. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28- After contact with skin, wash immediately with plenty of water S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S38- In case of insufficient ventilation, wear

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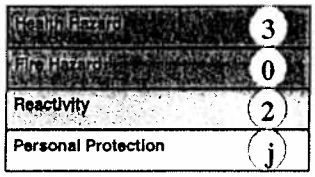
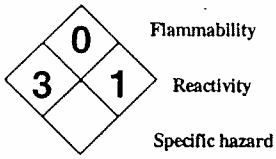
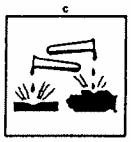
		suitable respiratory equipment. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
HMIS (U.S.A.)		National Fire Protection Association (U.S.A.) 
WHMIS (Canada) (Pictograms)		
DSCL (Europe) (Pictograms)		
TDG (Canada) (Pictograms)		
ADR (Europe) (Pictograms)		
Protective Equipment		Gloves.
		Synthetic apron.
		Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
		Splash goggles.

Section 16. Other Information

MSDS Code	S4100
References	Not available.
Other Special Considerations	Not available.

Validated by Sonia Owen on 6/5/2001.	Verified by Sonia Owen. Printed 7/6/2001.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

1 - Site Specific Information

FLAMMABLE STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: 70% ETHANOL, ETHYL ALCOHOL 70%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/ PRODUCT#
ETHANOL (ABSOLUTE)	70.0	64-17-5	SPECTRUM	E1028
WATER	30.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	3	1	1	4

SPECIAL HAZARD RATING: FLAMMABLE, POISON, MAY CAUSE CANCER

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
0 0	Health Hazard 2 Fire Hazard 3 Reactivity 0	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Ethyl alcohol 200 Proof**	Catalog Number(s).	E1028, ET107, YY604
		CAS#	64-17-5
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	KQ6300000
		TSCA	TSCA 8(b) inventory: Ethyl alcohol 200 Proof
Commercial Name(s)	Not available.	CI#	Not applicable.
Synonym	Ethanol; Absolute Ethanol; Alcohol; Ethanol 200 proof; Ethyl Alcohol Anhydrous	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300	
Chemical Name	Ethyl Alcohol		
Chemical Family	Aliphatic alcohol or glycol. (Solvent.)	CALL (310) 516-8000	
Chemical Formula	CH3CH2OH		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Ethyl alcohol 200 Proof	64-17-5	1900			100

Toxicological Data on Ingredients

Ethyl alcohol 200 Proof:
ORAL (LD50): Acute: 7060 mg/kg [Rat.]. 3450 mg/kg [Mouse].
VAPOR (LC50): Acute: 20000 ppm 8 hours [Rat]. 39000 mg/m³ 4 hours [Mouse].

Section 3. Hazards Identification

Potential Acute Health Effects

Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator), of ingestion.

Potential Chronic Health Effects

Slightly hazardous in case of skin contact (sensitizer).
CARCINOGENIC EFFECTS: Classified PROVEN by State of California Proposition 65. A4 (Not classifiable for human or animal.) by ACGIH.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Classified PROVEN for human.
DEVELOPMENTAL TOXICITY: Classified Development toxin [PROVEN]. Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE].
The substance is toxic to blood, the reproductive system, liver, upper respiratory tract, skin, central nervous

Continued on Next Page

system (CNS).
Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Flammable.
Auto-Ignition Temperature	363°C (685.4°F)
Flash Points	CLOSED CUP: 12.78°C (55°F). OPEN CUP: 12.78°C (55°F) (Cleveland).
Flammable Limits	LOWER: 3.3% UPPER: 19%
Products of Combustion	These products are carbon oxides (CO, CO2).
Fire Hazards in Presence of Various Substances	Highly flammable in presence of open flames and sparks, of heat. Slightly flammable to flammable in presence of oxidizing materials.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks, of heat, of oxidizing materials, of acids.
Fire Fighting Media and Instructions	Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.
Special Remarks on Fire Hazards	Containers should be grounded. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME Vapor may travel considerable distance to source of ignition and flash back. May form explosive mixtures with air. Contact with Bromine pentafluoride is likely to cause fire or explosion. Ethanol ignites on contact with chromyl chloride. Ethanol ignites on contact with iodine heptafluoride gas. It ignites than explodes upon contact with nitrosyl perchlorate. Additon of platinum black catalyst caused ignition.
Special Remarks on Explosion Hazards	Ethanol has an explosive reaction with the oxidized coating around potassium metal. Ethanol ignites and then explodes on contact with acetic anhydride + sodium hydrosulfate (ignites and may explode), disulfuric acid + nitric acid, phosphorous(III) oxide platinum, potassium-tert-butoxide+ acids. Ethanol forms explosive products in reaction with the following compound : ammonia + silver nitrate (forms silver nitride and silver fulminate), iodine + phosphorus (forms ethane iodide), magnesium perchlorate (forms ethyl perchlorate), mercuric nitrate, nitric acid + silver (forms silver fulminate) silver nitrate (forms ethyl nitrate) silver(I) oxide + ammonia or hydrazine (forms silver nitride and silver fulminate), sodium (evolves hydrogen gas). Sodium Hydrazide + alcohol can produce an explosion. Alcohols should not be mixed with mercuric nitrate, as explosive mercuric fulminate may be formed.

Continued on Next Page

May form explosive mixture with manganese perchlorate + 2,2-dimethoxypropane.
Addition of alcohols to highly concentrate hydrogen peroxide forms powerful explosives.
Explodes on contact with calcium hypochlorite
Vapor may explode if ignited in an enclosed area.
Containers may explode when heated or involved in a fire.

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large Spill	Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis, moisture.
Storage	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame). Do not store above 23°C (73.4°F).

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves (impervious).
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 1000 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 1000 (ppm) from OSHA (PEL) [United States] TWA: 1900 (mg/m^3) from OSHA (PEL) [United States] TWA: 1000 (ppm) from NIOSH TWA: 1000 (ppm) [United Kingdom (UK)] TWA: 1920 (mg/m^3) [United Kingdom (UK)] TWA: 1000 STEL: 1250 (ppm) [Canada] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid. (Liquid.)	**Odor**	Mild to strong, rather pleasant; like wine or whiskey. Alcohol-like; Ethereal, vinous.
Molecular Weight	46.07 g/mole	**Taste**	Pungent. Burning.
pH (1% soln/water)	Not available.	**Color**	Colorless. Clear
Boiling Point	78.5°C (173.3°F)		
Melting Point	-114.1°C (-173.4°F)		
Critical Temperature	243°C (469.4°F)		

Continued on Next Page

Specific Gravity	0.789 (Water = 1)
Vapor Pressure	5.7 kPa (@ 20°C)
Vapor Density	1.59 (Air = 1)
Volatility	Not available.
Odor Threshold	100 ppm
Water/Oil Dist. Coeff.	The product is more soluble in water; log(oil/water) = -0.3
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol, diethyl ether, acetone.
Solubility	Easily soluble in cold water, hot water. Soluble in methanol, diethyl ether, acetone.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials, heat, sources of ignition.
Incompatibility with various substances	Reactive with oxidizing agents, acids, alkalis.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Ethanol rapidly absorbs moisture from the air. Can react vigorously with oxiders. The following oxidants have been demonstrated to undergo vigorous/explosive reaction with ethanol: barium perchlorate, bromine pentafluoride, calcium hypochlorite, chloryl perchlorate, chromium trioxide, chromyl chloride, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, nitric acid nitrosyl perchlorate, perchloric acid permanganic acid, peroxodisulfuric acid, potassium dioxide, potassium perchlorate, potassium permanganate, ruthenium(VIII) oxide, silver perchlorate, silver peroxide, uranium hexafluoride, uranyl perchlorate. Ethanol reacts violently/expodes with the following compounds: acetyl bromide (evolves hydrogen bromide) acetyl chloride, aluminum, sesquibromide ethylate, ammonium hydroxide & silver oxide, chlorate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + methanol + mercuric oxide, manganese perchlorate + 2,2-dimethoxy propane, perchlorates, permanganates + sulfuric acid, potassium superoxide, potassium tert-butoxide, silver & nitric acid, silver perchlorate, sodium hydrazide, sulfuric acid + sodium dichromate, tetrachlorisilane + water. Ethanol is also incompatible with platinium, and sodium. No really safe conditions exist under which ethyl alcohol and chlorine oxides can be handled. Reacts vigorously with acetyl chloride
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	**WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.** Acute oral toxicity (LD50): 3450 mg/kg [Mouse]. Acute toxicity of the vapor (LC50): 39000 mg/m^3 4 hours [Mouse].
Chronic Effects on Humans	

Continued on Next Page

	CARCINOGENIC EFFECTS: Classified PROVEN by State of California Proposition 65. A4 (Not classifiable for human or animal.) by ACGIH. **MUTAGENIC EFFECTS**: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. **TERATOGENIC EFFECTS**: Classified PROVEN for human. **DEVELOPMENTAL TOXICITY**: Classified Development toxin [PROVEN]. Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE]. Causes damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS).
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator), of ingestion.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May affect genetic material (mutagenic) Causes adverse reproductive effects and birth defects (teratogenic) , based on moderate to heavy consumption. May cause cancer based on animal data. Human: passes through the placenta, excreted in maternal milk.
Special Remarks on other Toxic Effects on Humans	Acute potential health effects: Skin: causes skin irritation Eyes: causes eye irritation Ingestion: May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea, and alterations in gastric secretions. May affect behavior/central nervous system (central nervous system depression - amnesia, headache, muscular incoordination, excitation, mild euphoria, slurred speech, drowsiness, staggaring gait, fatigue, changes in mood/personality, excessive talking, dizziness, ataxia, somnolence, coma/narcosis, hallucinations, distorted perceptions, general anesthetic), peripherial nervous system (spastic paralysis)vision (diplopia). Moderately toxic and narcotic in high concentrations. May also affect metabolism, blood, liver, respiration (dyspnea), and endocrine system. May affect respiratory tract, cardiovascular(cardiac arrhythmias, hypotension), and urinary systems. Inhalation: May cause irritation of the respiratory tract and affect behavior/central nervous system with symptoms similar to ingestion. Chronic Potential Health Effects: Skin: Prolonged or repeated skin contact may casue dermatitis, an allergic reaction. Ingestion: Prolonged or repeated ingestion will have similiar effects as acute ingestion. It may also affect the brain.

Section 12. Ecological Information

Ecotoxicity	Ecotoxicity in water (LC50): 14000 mg/l 96 hours [Rainbow trout]. 11200 mg/l 24 hours [fingerling trout].
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

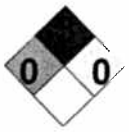
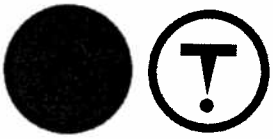
Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Continued on Next Page

Section 14. Transport Information

DOT Classification	CLASS 3: Flammable liquid.
Identification	: Ethanol UNNA: 1170 PG: II
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Ethyl alcohol 200 Proof California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Ethyl alcohol 200 Proof California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Ethyl alcohol 200 Proof Rhode Island RTK hazardous substances: Ethyl alcohol 200 Proof Pennsylvania RTK: Ethyl alcohol 200 Proof Florida: Ethyl alcohol 200 Proof Massachusetts RTK: Ethyl alcohol 200 Proof New Jersey: Ethyl alcohol 200 Proof Tennessee: Ethyl alcohol 200 Proof California - Directors List of Hazardous Substances (8 CCR 339): Ethyl alcohol 200 Proof TSCA 8(b) inventory: Ethyl alcohol 200 Proof
California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Ethyl alcohol 200 Proof California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Ethyl alcohol 200 Proof
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications	**WHMIS (Canada)**: CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
	DSCL (EEC): R11- Highly flammable. S7- Keep container tightly closed. S16- Keep away from sources of ignition - No smoking.
HMIS (U.S.A.)	Health Hazard: 2 Fire Hazard: 3 Reactivity: 0 Personal Protection: E
National Fire Protection Association (U.S.A.)	 Health: 0; Flammability: 3; Reactivity: 0; Specific hazard:
WHMIS (Canada) (Pictograms)	
DSCL (Europe) (Pictograms)	

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TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves (impervious).

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Safety glasses.

Section 16. Other Information

MSDS Code	**E3280**
References	-SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -Material safety data sheet emitted by: la Commission de la Santé et de la Sécurité du Travail du Québec. -Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. HSDB, RTECS, and LOLI databases.
Other Special Considerations	Not available.

Validated by Sonia Owen on 4/24/2003.	**Verified by Sonia Owen.** **Printed 9/25/2003.**

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

1 - Site Specific Information

FLAMMABLE STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: ACETONE/METHANOL 50:50

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
METHANOL	50.0	67-56-1	BURDICK & JACKSON	230-4
ACETONE	50.0	67-64-1	ASHLAND	3011051

4 - Section III - Personal Protective Equipment & Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP. OR FUMEOOD	H	C	R	F
X	X	X	X	3	2	2	3

SPECIAL HAZARD RATING: FLAMMABLE, POISON

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

Burdick & Jackson, Inc.
1953 South Harvey Street
Muskegon, MI 49442 USA

MATERIAL SAFETY DATA SHEET

Methanol

Revision Date: October, 1995
Revision No: 2

Information/Emergency Telephone Number	616.726.3171
Chemtrec Telephone Number	800.424.9300
Canadian Emergency Telephone Number	613.996.6666

I. Identification

Chemical Name:	Methanol	Molecular Weight:	32.04
Chemical Family:	Alcohol	Formula:	CH_4O
Synonyms:	Carbinol, Methyl Alcohol, Wood Alcohol		
DOT Proper Shipping Name:	Methanol		
DOT Hazard Class:	Flammable Liquid, Hazard Class 3, P.G. II		
DOT Identification Number:	UN1230	CAS Number:	67-56-1

II. Physical and Chemical Data

Boiling Point, 760 mm Hg:	64.7° C	Freezing Point:	-97.7° C	Evaporation Rate:	(BuAc=1) ca 5
Vapor Pressure at 20° C:	97 mm Hg	Vapor Density (air=1):	1.11	Solubility in Water:	@ 20° C complete
% Volatiles by Volume:	ca 100	Specific Gravity (H_2O=1):	@ 20° C 0.792	Stability:	Stable

Hazardous Polymerization:	Not expected to occur.
Appearance and Odor:	A clear, colorless liquid with a slight alcoholic odor.
Conditions to Avoid:	Heat, sparks, open flame, open containers, and poor ventilation.
Materials to Avoid:	Strong oxidizing agents and reactive metals which will displace hydrogen.
Hazardous Decomposition Products:	Incomplete combustion can generate carbon monoxide and other toxic vapors such as formaldehyde.

III. Fire and Explosion Hazard Data

Flash Point (test method):	11° C (Tag closed cup)	Auto Ignition Temperature:	385° C
Flammable Limits in Air % by Volume: Lower Limit	6.0	Upper Limit:	36.5

Unusual Fire and Explosion Hazards:	May burn with an invisible flame. Mixtures with water as low as 21% by volume are still flammable (flash point below 37.8° C). Under some circumstances can corrode certain metals, including aluminum and zinc, and generate hydrogen gas.
Extinguishing Media:	Carbon dioxide, dry chemical, alcohol foam, water mist, or fog.
Special Fire Fighting Procedures:	Wear full protective clothing and self-contained breathing apparatus. Heat will build pressure an may rupture closed storage containers. Keep fire-exposed containers cool with water spray.

NFPA Health **1**, Fire **3**, React.**0**, Spec. **0**

IV. Hazardous Components

Methanol	Wt. % ca 100	TWA	200 ppm (skin)	CAS No.	67-56-1

Burdick & Jackson's Disclaimer: The information and recommendations presented in this Material Safety Data Sheet are based on sources believed to be reliable on the date hereof. Burdick & Jackson makes no representation on its completeness or accuracy. It is the user's responsibility to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. No representations or warranties, either express or implied, of merchantability or fitness for a particular purpose or of any other nature are made with respect to the information provided in this Material Safety Data Sheet or to the product to which such information refers. Burdick & Jackson neither assumes nor authorizes any other person to assume for it, any other or additional liability or responsibility resulting from the use of, or reliance upon, this information.

V. Health Hazards

Occupational Exposure Limits

OSHA	TWA	200 ppm (skin)
	STEL	250 ppm
	Ceiling	not listed
ACGIH	TWA	200 ppm (skin)
	STEL/Ceiling	250 ppm
NIOSH	TWA	200 ppm (skin)
	STEL	250 ppm

Concentration Immediately Dangerous to Health

OSHA/NIOSH	25,000 ppm

Odor Threshold

NSC	10 ppm
NIOSH	2,000 ppm

Carcinogenic Data

Methanol is not listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.

Primary Routes of Entry

Methanol may exert its effects through inhalation, skin absorption, and ingestion.

Industrial Exposure: Route of Exposure/Signs and Symptoms

Inhalation: Exposure can cause drowsiness and intoxication, headache, visual disturbance leading to blindness, coughing and shortness of breath, collapse and death at high concentrations.

Eye Contact: Liquid and can cause moderate burning, watering, swelling, and redness; high vapor concentration (greater than 2,000 ppm) may cause same symptoms .

Skin Contact: This substance may be absorbed through intact skin and produce toxic effects. Extensive, repeated and/or prolonged skin contact can cause burning, itching, redness, or blisters.

Ingestion: Causes burning of the gastrointestinal tract and toxic effects. Swallowing more than 2 ounces of methanol can cause death.

Effects of Overexposure

Mild poisoning is characterized by fatigue, nausea, headache, and delayed visual blurring. Moderate intoxication results in severe depression. Temporary or permanent blindness may follow in 2-6 days. In severe poisoning, symptoms progress to rapid, shallow respiration, cyanosis, coma, hypotension, dilated pupils, and visual disturbance. Death may result from respiratory failure.

Medical Condition Aggravated by Exposure

Preclude from exposure those individuals with diseases of eyes, liver, kidneys, and lungs.

Emergency First Aid

Inhalation: Immediately remove to fresh air. If not breathing, administer mouth-to-mouth rescue breathing. If there is no pulse, administer cardiopulmonary resuscitation (CPR). Contact physician immediately.

Eye Contact: Rinse with copious amounts of water for at least 15 minutes. Get emergency medical assistance.

Skin Contact: Flush thoroughly for at least 15 minutes. Wash affected skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before re-use, and discard contaminated shoes. Get emergency medical assistance.

Ingestion: Call local Poison Control Center for assistance. Contact physician immediately. Never induce vomiting or give anything by mouth to a victim unconscious or having convulsions.

Note to Physician

In case of ingestion or massive inhalation, observe victim as an inpatient because slow metabolism causes a latent period of 24 hours between exposure and acidosis and blindness.

VI. Safety Measures and Equipment

Ventilation: Adequate ventilation is required to protect personnel from exposure to chemical vapors exceeding the PEL and to minimize fire hazards. The choice of ventilation equipment, either local or general, will depend on the conditions of use, quantity of material, and other operating parameters.

Respiratory: Use approved respirator equipment. Follow NIOSH and equipment manufacturer's recommendations to determine appropriate equipment (air-purifying, air-supplied, or self-contained breathing apparatus).

Eyes: Safety glasses are considered minimum protection. Goggles or face shield may be necessary depending on quantity of material and conditions of use.

Skin: Protective gloves and clothing are recommended. The choice of material must be based on chemical resistance and other user requirements. Generally, neoprene, nitrile rubber, or rubber offers acceptable chemical resistance. Individuals who are acutely and specifically sensitive to Methanol may require additional protective equipment.

Storage: Methanol should be protected from temperature extremes and direct sunlight. Proper storage of Methanol must be determined based on other materials stored and their hazards and potential chemical incompatibility. In general, Methanol should be stored in an acceptably protected and secure flammable liquid storage room.

Other: Emergency eyewash fountains and safety showers should be available in the vicinity of any potential exposure. Ground and bond metal containers to minimize static sparks.

VII. Spill and Disposal Data

Spill Control: Protect from ignition. Wear protective clothing and use approved respirator equipment. Absorb spilled material in an absorbent recommended for solvent spills and remove to a safe location for disposal by approved methods. If released to the environment, comply with all regulatory notification requirements. CERCLA Reportable Quantity: 5,000 pounds.

Waste Disposal: Dispose of Methanol as an EPA hazardous waste. Contact state environmental agency for listing of licensed hazardous waste disposal facilities and applicable regulations. Hazardous waste number: U154 (ignitable); F003 (ignitable).

Hazard Classification	
Immediate Health:	Yes
Delayed Health:	Yes
Fire:	Yes
Sudden Release:	No
Reactive:	No

Chemical Listings	
Extremely Hazardous Substances:	No
CERCLA Hazardous Substances:	Yes
Toxic Chemicals:	Yes

Methanol is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40CFR Part 372. This product does not contain any other toxic chemical above 1% concentration or a carcinogen above 0.1% concentration.

KEY

ca	Approximately	STEL	Short Term Exposure Level (15 minutes)
na	Not Applicable	TLV	Threshold Limit Value
C	Ceiling	TWA	Time Weighted Average
		BuAc	Butyl Acetate

CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
NSC	National Safety Council ("Fundamentals of Industrial Hygiene," 3rd Ed., 1988)

SPECTRUM®

ISO 9002 CERTIFIED

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
3 / 1 / 0	Health Hazard 2 Fire Hazard 3 Reactivity 0	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Acetone**	Catalog Number(s).	A1004, A1020, A1028, A1041, AC115, HS001, SP101, US020, US021, HP402, US401, GC001, SP403, PS404
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS#	67-64-1
		RTECS	AL3150000
		TSCA	TSCA 8(b) inventory: Acetone
Commercial Name(s)	Acetone PestiSolv	CI#	Not applicable.
Synonym	2-propanone		
Chemical Name	Acetone		
Chemical Family	Aliphatic ketone. (Solvent.)		
Chemical Formula	C3-H6-O		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Acetone	67-64-1	500	1000		100

Toxicological Data on Ingredients

Acetone:
ORAL (LD50): Acute: 5800 mg/kg [Rat]. 3000 mg/kg [Mouse]. 5340 mg/kg [Rabbit].
VAPOR (LC50): Acute: 50100 mg/m³ 8 hours [Rat]. 44000 mg/m³ 4 hours [Mouse].

Section 3. Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED].
The substance is toxic to central nervous system (CNS).
The substance may be toxic to the reproductive system, heart.
Repeated or prolonged exposure to the substance can produce target organs damage.

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Flammable.
Auto-Ignition Temperature	465°C (869°F)
Flash Points	CLOSED CUP: -20°C (-4°F). OPEN CUP: -9°C (15.8°F) (Cleveland).
Flammable Limits	LOWER: 2.6% UPPER: 12.8%
Products of Combustion	These products are carbon oxides (CO, CO2).
Fire Hazards in Presence of Various Substances	Highly flammable in presence of open flames and sparks, of shocks, of heat.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks, of acids.
Fire Fighting Media and Instructions	Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Forms explosive mixtures with hydrogen peroxide, acetic acid, nitric acid, nitric acid + sulfuric acid, chromic anydride, chromyl chloride, nitrosyl chloride, hexachloromelamine, nitrosyl perchlorate, nitryl perchlorate, permonosulfuric acid, thiodiglycol + hydrogen peroxide, potassium ter-butoxide, sulfur dichloride, 1-methyl-1,3-butadiene, bromoform, carbon, air, chloroform, thitriazylperchlorate.

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large Spill	Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis, moisture.
Storage	Store in a segregated and approved area (flammables area) . Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Keep away from direct sunlight and heat and avoid all possible sources of ignition (spark or flame).

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 500 STEL: 750 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 750 STEL: 1000 (ppm) from OSHA (PEL) [United States] TWA: 500 STEL: 1000 [Austalia] TWA: 1185 STEL: 2375 (mg/m^3) [Australia] TWA: 750 STEL: 1500 (ppm) [United Kingdom (UK)] TWA: 1810 STEL: 3620 (mg/m^3) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	Odor	Fruity. Mint-like. Fragrant. Ethereal
Molecular Weight	58.08 g/mole	Taste	Pungent, Sweetish
pH (1% soln/water)	Not available.	Color	Colorless. Clear
Boiling Point	56.2°C (133.2°F)		
Melting Point	-95.35 (-139.6°F)		
Critical Temperature	235°C (455°F)		
Specific Gravity	0.79 (Water = 1)		
Vapor Pressure	24 kPa (@ 20°C)		
Vapor Density	2 (Air = 1)		
Volatility	Not available.		
Odor Threshold	62 ppm		
Water/Oil Dist. Coeff.	The product is more soluble in water; log(oil/water) = -0.2		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water.		
Solubility	Easily soluble in cold water, hot water.		

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Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Excess heat, ignition sources, mechanical shock, exposure to moisture, air, or water, incompatible materials.
Incompatibility with various substances	Reactive with oxidizing agents, reducing agents, acids, alkalis, moisture.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Not available.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Dermal contact. Eye contact. Inhalation.
Toxicity to Animals	**WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.** Acute oral toxicity (LD50): 3000 mg/kg [Mouse]. Acute toxicity of the vapor (LC50): 44000 mg/m^3 4 hours [Mouse].
Chronic Effects on Humans	**CARCINOGENIC EFFECTS:** A4 (Not classifiable for human or animal.) by ACGIH. **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. **DEVELOPMENTAL TOXICITY:** Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED]. Causes damage to the following organs: central nervous system (CNS). May cause damage to the following organs: the reproductive system, heart.
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May affect genetic material (mutagenicity) based on studies with yeast (S. cerevisiae), bacteria, and hamster fibroblast cells. May cause reproductive effects (fertility) based upon animal studies.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation. May be harmful if absorbed through the skin. Eyes: Causes eye irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. Inhalation: Inhalation at high concentrations affects the sense organs, causes respiratory tract irritation. It also may the Central Nervous System (behavior) characterized by dizzness, drowsiness, confusion, headache, muscle weakeness, and possibly motor incoordination, speech abnormalities, narcotic effects and coma. Inhalation may also affect the gastrointestinal tract (nausea, vomiting). Ingestion: May cause irritation of the digestive (gastrointestinal) tract (nausea, vomiting). It may also affect the Central Nevous System (behavior), characterized by depression, fatigue, excitement, stupor, coma, headache, altered sleep time, ataxia, tremors as well at the blood, liver, and urinary system (kidney, bladder, ureter) and endocrine system. Chronic Potential Health Effects: Skin: May cause dermatitis. Eyes: Eye irritation. Inhalation: May cause effects similar to those of acute inhalation. Ingestion: May cause loss of appetite, heartburn, gastritis. No permanent adverse health effects have been found.

Section 12. Ecological Information

Ecotoxicity	Ecotoxicity in water (LC50): 5540 mg/l 96 hours [Trout]. 8300 mg/l 96 hours [Bluegill]. 7500 mg/l 96 hours [Fatthead Minnow]. 0.1 ppm any hours [Water flea].
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	CLASS 3: Flammable liquid.
Identification	: Acetone UNNA: 1090 PG: II
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	New York release reporting list: Acetone Rhode Island RTK hazardous substances: Acetone Pennsylvania RTK: Acetone Florida: Acetone Massachusetts RTK: Acetone New Jersey: Acetone California List of Hazardous Substances (8 CCR 339): Acetone Tennessee: Acetone TSCA 8(b) inventory: Acetone TSCA 5(e) substance consent order: Acetone TSCA 12(b) annual export notification: Acetone CERCLA: Hazardous substances.: Acetone: 5000 lbs. (2268 kg)
California Proposition 65 Warnings	
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications	WHMIS (Canada): CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects (TOXIC).
	DSCL (EEC): R11- Highly flammable. R36- Irritating to eyes. S9- Keep container in a well-ventilated place. S16- Keep away from sources of ignition - No smoking. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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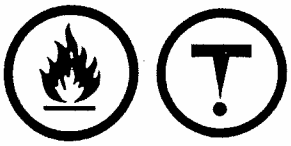
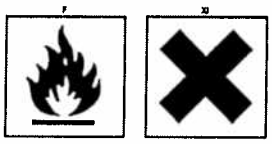
HMIS (U.S.A.)	Health Hazard 2 Fire Hazard 3 Reactivity 0 Personal Protection h	National Fire Protection Association (U.S.A.) Health 3 1 0 Flammability Reactivity Specific hazard
WHMIS (Canada) (Pictograms)		
DSCL (Europe) (Pictograms)		
TDG (Canada) (Pictograms)		
ADR (Europe) (Pictograms)		
Protective Equipment		Gloves.
		Lab coat.
		Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
		Splash goggles.

Section 16. Other Information

MSDS Code	A3060
References	-Material safety data sheet issued by: la Commission de la Santé et de la Sécurité du Travail du Québec. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. LOLI, RTECS, HSDB databases. Other MSDSs
Other Special Considerations	Not available.

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Validated by Sonia Owen on 6/7/2001.	Verified by Sonia Owen. Printed 7/6/2001.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: HYDROCHLORIC ACID, 1N

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
HYDROCHLORIC ACID	8.26	7647-01-0	SPECTRUM	H1035
DI-WATER	91.74	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	3	3	0	0

SPECIAL HAZARD RATING: HARMFUL BY INHALATION

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE.

STABILITY: 3 YEARS

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
0 / 3 / 0 / ACID	Health Hazard 3 Fire Hazard 0 Reactivity 0	See Section 15

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Hydrochloric acid**	Code	H3290
		CAS#	Not applicable.
Manufacturer	SPECTRUM CHEMICAL MFG. CORP. 14422 SOUTH SAN PEDRO STREET GARDENA, CALIFORNIA 90248	RTECS	MW4025000
		TSCA	On the TSCA list.
Commercial Name(s)	Not available.	CI#	Not applicable.
Synonym	Not available.		
Chemical Name	Not applicable.		
Chemical Family	Inorganic acid. (Acid.)		
Chemical Formula	Not applicable.		
Supplier	SPECTRUM QUALITY PRODUCTS, INC. 14422 SOUTH SAN PEDRO STREET GARDENA, CA 90248		

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300
Emergency phone: (310)516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
Hydrogen chloride Water	7647-01-0 7732-18-5	7.5		5	37 63

Toxicological Data on Ingredients

Hydrogen chloride:
VAPOR (LC50): Acute: 3124 ppm (Rat) (1 hour(s)).

Section 3. Hazards Identification

Potential Acute Health Effects

Extremely dangerous in case of ingestion, of inhalation. Very dangerous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant). Not dangerous in case of skin contact (non-sensitizer for skin). Corrosive to eyes and skin. Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Can be fatal if inhaled or ingested. This product may irritate eyes and skin upon contact. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

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Potential Chronic Health Effects	Not dangerous in case of skin contact (non-corrosive for skin, non-irritant for skin, non-sensitizer for skin, non-permeator by skin), of eye contact (non-irritant), of ingestion, of inhalation. **CARCINOGENIC EFFECTS**: Not available. **MUTAGENIC EFFECTS**: Not available. **TERATOGENIC EFFECTS**: Not available. The substance is toxic to lungs, mucous membranes. Toxicity of the product to the reproductive system: Not available. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.
Skin Contact	If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: **Neutralize exposed skin with a dilute solution of sodium carbonate.** Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.
Serious Ingestion	DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not applicable.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No specific information is available in our database regarding the product's risks of explosion in the presence of various materials.
Fire Fighting Media and Instructions	Non-flammable.

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Special Remarks on Fire Hazards	Non combustible.
Special Remarks on Explosion Hazards	No additional remark.

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert DRY material and place in an appropriate waste disposal container. If necessary: **Neutralize the residue with a dilute solution of sodium carbonate.**
Large Spill	Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of sodium carbonate.**

Section 7. Handling and Storage

Precautions	Keep locked up. Keep container dry. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles as metals, alkalis. May corrode metallic surfaces. Store in a metallic or coated fibreboard drum using a strong polyethylene inner package.
Storage	May corrode metallic surfaces. Store in a metallic or coated fibreboard drum using a strong polyethylene inner package. Corrosive materials should be stored in a separate safety storage cabinet or room.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engeneering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Splash goggles. Full suit. Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Gloves (impervious). Boots. Wear appropriate respirator when ventilation is inadequate.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 5 CEIL: 5 (ppm) from OSHA/NIOSH TWA: 7.5 CEIL: 7 (mg/m^3) from OSHA Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	Odor	Pungent. (Strong.)
Molecular Weight	Not applicable.	Taste	Not available.
pH (1% soln/water)	1	Color	Colorless to light yellow.
Boiling Point	100°C (212°F)		
Melting Point	Not available.		
Critical Temperature	Not available.		
Specific Gravity	1.19 (Water = 1)		
Vapor Pressure	17.535 mm of Hg (@ 20°C) based on data for: Water		

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Vapor Density	0.62 (Air = 1) based on data for: Water
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol.
Solubility	Soluble in cold water, hot water, methanol.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	No additional remark.
Incompatibility with various substances	Highly reactive with metals, alkalis.
Corrosivity	Extremely corrosive in presence of steel, of aluminum, of copper. Non-corrosive in presence of glass.
Special Remarks on Reactivity	Reacts violently with water especially when water is added to the product.
Special Remarks on Corrosivity	Highly corrosive. Incompatible with copper alloys.
Polymerization	No.

Section 11. Toxicological Information

Routes of Entry	Ingestion. Skin contact. Inhalation.
Toxicity to Animals	**WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.** Acute toxicity of the vapor (LC50): 1562 ppm (Rat).
Chronic Effects on Humans	The substance is toxic to lungs, mucous membranes. Toxicity of the product to the reproductive system: Not available.
Other Toxic Effects on Humans	Extremely dangerous in case of ingestion, of inhalation. Very dangerous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant). Not dangerous in case of skin contact (non-sensitizer for skin).
Special Remarks on Toxicity to Animals	No additional remark.
Special Remarks on Chronic Effects on Humans	No additional remark.
Special Remarks on other Toxic Effects on Humans	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Not applicable.
Toxicity of the Products of Biodegradation	The products of degradation are as toxic as the original product.
Special Remarks on the Products of Biodegradation	No additional remark.

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Section 13. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	DOT CLASS 8: Corrosive liquid.
Identification	Hydrochloric acid, solution (Hydrogen chloride) UN1789 II
Special Provisions for Transport	No additional remark.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	The following product(s) is (are) listed by CERCLA: **Hydrogen chloride** The following product(s) is (are) listed on SARA 312: **Hydrogen chloride** The following product(s) is (are) listed on SARA 313: **Hydrogen chloride** The following product(s) is (are) listed by the State of Massachusetts: **Hydrogen chloride** The following product(s) is (are) listed by the State of Pennsylvania: **Hydrogen chloride** The following product(s) is (are) listed on TSCA: **Hydrogen chloride, Water**
California Proposition 65 Warnings	WARNING: This product contains a chemical known to the State of California to cause cancer. Chemical ingredient(s) requiring this warning: NONE WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Chemical ingredient(s) requiring this warning: NONE
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
Other Classifications	**WHMIS (Canada)**: WHMIS CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC). WHMIS CLASS E: Corrosive liquid. **DSCL (EEC)**: R23- Toxic by inhalation. R28- Very toxic if swallowed. R35- Causes severe burns. R42- May cause sensitization by inhalation. R36/37/38- Irritating to eyes, respiratory system and skin.
HMIS (U.S.A.)	Health Hazard 3 Fire Hazard 0 Reactivity 0 Personal Protection j National Fire Protection Association (U.S.A.) Health Flammability Reactivity Specific hazard

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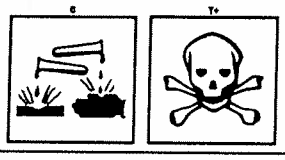
Continued on Next Page

WHMIS (Canada) (Pictograms)	
DSCL (Europe) (Pictograms)	
TDG (Canada) (Pictograms)	
ADR (Europe) (Pictograms)	
Protective Equipment	Gloves (impervious).
	Full suit.
	Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
	Splash goggles.

Section 16. Other Information

Catalog Number(s)	**H1035, H1037, H1038, H1039, H1040, H1041, HY104, HY106**
References	-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Guide de la loi et du règlement sur le transport des marchandises dangeureuses au canada. Centre de conformité internatinal Ltée. 1986.
Other Special Considerations	No additional remark.

Validated by E. Brull on 12/17/96.	**Verified by E. Brull.** **Printed 12/18/96.**

Emergency phone: (310)516-8000

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Continued on Next Page

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

Date Printed: 08/10/2004
Date Updated: 04/15/2004
Version 1.4

Product and Company Information

r

SODIUM HYPOCHLORITE SOLUTION MIN. 10 % CL ACTIVE
13440
RIEDEL

s
Zip, Country
ne:
ne:

Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103 US
314 771 5765
414 273 3850 Ext. 5996
800 325 5052

omposition/Information on Ingredient

	CAS #	SARA 313
LORITE	7681-52-9	No

NaOCl
Antiformin * B-K liquid * Carrel-dakin solution * Chloros * Chlorox * Clorox * Dakins solution * Deosan * Hyclorite * Hypochlorite solution containing >7% avaliable chlorine by wt. (UN1791) * Javex * Klorocin * Milton * Neo-cleaner * Neoseptal CL * Parozone * Purin B * Sodium chloride oxide * Sodium hypochlorite * Sodium oxychloride * Surchlor
NH3486300

zards Identification

VIEW

h acids liberates toxic gas. Causes burns.

Y: 0
0

Y: 0
0

information on toxicity, please refer to Section 11.

rst Aid Measures

, wash out mouth with water provided person is
all a physician. Do not induce vomiting.

e oxygen.

water for
shoes.

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and eyes.
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Safety shower and eye bath. Use only in a chemical fume hood.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.
Other: Faceshield (8-inch minimum).

GENERAL HYGIENE MEASURES
Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance: Physical State: Liquid

Property	Value	At Temperature or Pressure
Molecular Weight	74.44 AMU	
pH	N/A	
BP/BP Range	111 °C	760 mmHg
MP/MP Range	-30 - -20 °C	
Freezing Point	N/A	
Vapor Pressure	17.5 mmHg	20 °C
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	1.25 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water:Miscible.	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong acids, Organic materials, Finely powdered metals, Forms explosive mixtures with:, Amines, Ammonia, Methanol.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Chlorine.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes burns.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes burns.
Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynxand bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

TOXICITY DATA

Oral
Mouse
5800 mg/kg
LD50
Remarks: Behavioral:Change in motor activity (specific assay).
Gastrointestinal:Other changes.

IRRITATION DATA

Eyes
Rabbit
10 mg
Remarks: Moderate irritation effect

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC CARCINOGEN LIST

Rating: Group 3

CHRONIC EXPOSURE - MUTAGEN

Species: Human
Dose: 100 PPM
Exposure Time: 24H
Cell Type: lymphocyte
Mutation test: Cytogenetic analysis

Species: Human
Dose: 149 MG/L
Cell Type: Embryo
Mutation test: Sister chromatid exchange

Species: Hamster
Dose: 100 MG/L
Cell Type: lung

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Mutation test: Cytogenetic analysis

Mutation test: Histidine reversion (Ames)

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Hypochlorite solutions
UN#: 1791
Class: 8
Packing Group: Packing Group III
Hazard Label: Corrosive
PIH: Not PIH

IATA
Proper Shipping Name: Hypochlorite solution
IATA UN Number: 1791
Hazard Class: 8
Packing Group: III

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION
Symbol of Danger: C
Indication of Danger: Corrosive.
R: 31 34
Risk Statements: Contact with acids liberates toxic gas. Causes burns.
S: 26 36/37/39 45
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Corrosive.
Risk Statements: Contact with acids liberates toxic gas. Causes burns.
Safety Statements: After contact with skin, wash immediately with plenty of soap-suds. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

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WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
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MATERIAL SAFETY DATA SHEETS
Section 2

TABLE OF CONTENTS

2	Cells/ Tissue Cultures and Media/Reagents
2.0	A-7 Agar
2.1	A-8 Agar
2.2	Amphotericin B Solution
2.3	Bovine albumin
2.4	Buffer (pH 4)
2.5	Buffer (pH 7)
2.6	Cell Cultures Cell Lines
2.7	Cycloheximide
2.8	ELVIS HSV cells
2.9	ELVIS Replacement media
2.10	Fetal Bovine Serum
2.11	Gentamycin Sulfate Solution
2.12	Glucose (25%)
2.13	Guinea Pig Red blood Cells
2.14	HEPES Buffer Solution
2.15	HCL
2.16	Horse Serum
2.17	L- Glutamine Solution
2.18	MEM 1X Earles Salts
2.19	NaOH
2.20	Penicillin (1000,000 u/ml)
2.21	PMN
2.22	Polymixin B (5000 u/ml)
2.23	Phosphate Buffer Saline Solution (cat# 9236)
2.24	Phosphate Buffer w/o calcium & magnesium salts (cat# 9240)
2.25	RPMI Medium IX HEPES
2.26	2 SP
2.27	SPG
2.28	Transport Medium (M4/M5)
2.29	Trypsin (for MDCK media)
2.30	Trypsin EDTA 1X Solution
2.31	U-9 Complete
2.32	Vancomycin

remel

January 16, 2004

Attention: Edna Makalintal

Fax# 818-503-6857

Subject: Material Safety Data Sheets Request.

Thank you for your request concerning Material Safety Data Sheets (MSDS). The following products for which you have requested information have been ascertained to be **Non-Hazardous:**

- ***20201 A-7 Agar***
- ***20204 A-8 Agar Selective***

MSDS are developed for REMEL manufactured products that contain specific quantities of hazardous components, as specified by the Occupational Safety and Health Administration (OSHA) regulations CFR 29, 1910.1200, Hazard Communication standard. MSDS are supplied for these products as package inserts and upon request. You may receive an MSDS or nonhazardous information letter from another manufacturer concerning their microbiological products that we distribute.

It is recommended that you maintain MSDS in the event you receive requests for them from your customers, employees, or regulatory agencies, as required by the standard and applicable state "Right-to-Know" laws. An MSDS should be provided to each person prior to applicable product usage.

REMEL Material Safety Data Sheets is believed to be correct; however, no warranties (expressed or implied) are made with respect to such information and REMEL assumes no liability resulting from use of such information. You should consider information received from REMEL as a supplement to other data gathered by you. Make independent determinations of the suitability and completeness of data from all sources to assure proper use. Disposal of products according to federal, state, and local regulations.

Good laboratory practices, safety procedures, and normal precautions in handling and storage of all products are recommended to provide adequate protection to the skilled laboratory professional. If applicable, refer to the product's technical insert for additional information.

Please contact me at (800) 255-6730, Ext. 4077, if you have any questions concerning this correspondence. To facilitate future MSDS requests, please supply us with the name and catalog number of the product for which you need information. Thank you for purchasing REMEL products.

Sincerely,

Donald Rousseau

Donald Rousseau
Environmental Coordinator
Enclosure(s)

12076 Santa Fe Drive, Lenexa, KS 66215 • 913-888-0939 • 800-255-6730 Fax 913-888-5884

Quality Microbiology Products and Service

SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 10/01/2003
Date Updated: 09/07/2002
Version 1.20

Section 1 - Product and Company Information

Product Name	AMPHOTERICIN B SOLUTION
Product Number	A2942
Brand	Sigma Chemical
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS, MO 63103 US
Technical Phone:	314 771 5765
Fax:	800 325 5052
Emergency Phone:	414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
AMPHOTERICIN B SOLUTION	None	No

Formula
Synonyms

Section 3 - Hazards Identification

HMIS Rating
Health: 0 Flammability: 0 Reactivity: 0

NFPA Rating
Health: 0 Flammability: 0 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media
Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Store at -20°C.

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment
Respiratory
Government approved respirator.
Hand
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Liquid

Molecular Weight:	N/A
pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A

Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable

Stable.

Materials to Avoid

Strong oxidizing agents.

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide.

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

May cause eye irritation.

Inhalation

May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion

May be harmful if swallowed.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: N/A

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

United States Regulatory Information
SARA Listed: No

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2003 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

MATERIAL SAFETY DATA SHEET

E.I. DuPont de Nemours & Co., Inc.
DuPont - NEN Research Products
549 Albany Street
Boston MA 02118

Product and Safety Information: (617) 482-9595
Medical Emergency : (800) 441-3637
Emergency Transportation : Chemtrec: (800) 424-9300
If in D.C.: (202) 483-7616

MATERIAL IDENTIFICATION

BOVINE ALBUMIN

MSDS NUMBER :**MSDS 5946**, DMP01075

Revision Date : 30-Jun-92

MANUFACTURER/DISTRIBUTOR
E. I. DU PONT DE NEMOURS & CO., INC.
MEDICAL PRODUCTS DEPT.
331 TREBLE COVE RD.
NORTH BILLERICA, MA 01862

PHONE NUMBERS
PRODUCT' INFORMATION : 1-(508)667-9538
TRANSPORT EMERGENCY : CHEMTREC: 1-(800)424-9300
MEDICAL EMERGENCY : 1-(800)441-9861

GRADE : TECHNICAL
CHEMICAL FAMILY : PROTEIN

TRADE NAMES / SYNONYMS
ALBUMIN, BOVINE

CAS NUMBER : 9048-46-8
MOLECULAR WEIGHT : ~69000

COMPONENTS

Material	CAS Number	%
BOVINE ALBUMIN	9048-46-8	100

PHYSICAL DATA

Boiling Point : Decomposes
Water Solubility : Soluble in pure water
Odor : Slight characteristic
Form : Powder
Color : Off-white to tan

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HAZARDOUS REACTIVITY

Instability : Stable at normal temperatures and storage conditions.
Incompatibility : Incompatible with metal, salts, alcohol, acids and ether (may cause denaturization).
Decomposition : Decomposes with heat. Thermal decomposition may release toxic and/or hazardous gases.
Polymerization : Polymerization will not occur.

FIRE AND EXPLOSION DATA

No Information Available.

FIRE AND EXPLOSION HAZARDS

Unknown fire hazard when exposed to heat or flame.

EXTINGUISHING MEDIA

Use media appropriate for surrounding material.

SPECIAL FIRE FIGHTING INSTRUCTIONS

Wear self-contained breathing apparatus.

HEALTH HAZARD INFORMATION

Inhalation: Inhalation of dust could cause lung congestion similar to that caused by any inert dust. Respiratory irritation; rhinitis (inflammation of the mucous membrane of the nose) and/or conjunctivitis (inflammation of the tissues surrouding the eyes). May provoke respiratory allergy (hay fever, asthma) in susceptible persons. Symptoms like hay fever and asthma may appear within 0 to 12 hours after inhalation.

Skin: Irritation, particularly to moist skin. Sensitization. Can cause contact dermatitis or eczema (inflammation characterized by redness, itching, weeping, oozing, and crusting of skin).

Eye: Irritation on contact; conjunctivitis (inflammation of the tissues surrounding the eye). Sensitization.

Ingestion: Possible irritation to mouth and throat. Possible enzyme intoxication (poisoning).

Medical Conditions Aggravated by Exposure: Hypersensitivity to albumin.

Target Organs: No information found.

(HEALTH HAZARD INFORMATION - Continued)

Effects of Repeated Exposure: Sensitizer. May develop allergy with symptoms of hay fever, asthma, and tightness of chest. May develop dermatitis.

CARCINOGENICITY

None of the components in this material is listed by IARC, NTP, OSHA, or ACGIH as a carcinogen.

EXPOSURE LIMITS

BOVINE ALBUMIN

TLV	**(ACGIH)**	: None Established
PEL	**(OSHA)**	: Particulates Not Otherwise Regulated 15 mg/m3 - 8 Hr TWA - Total Dust 5 mg/m3 - 8 Hr TWA - Respirable Dust

SAFETY PRECAUTIONS

Avoid breathing dust. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling.

FIRST AID

INHALATION

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

If swallowed, immediately give 2 glasses of water and induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

NOTES TO PHYSICIAN

No specific antidote. Treat symptomatically and supportively.

PROTECTION INFORMATION

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Use only with adequate ventilation. Keep away from heat, sparks and flames. Keep container tightly closed. Avoid dust generation. Do not

mix with incompatibles as listed above. Do not consume food, drink or tobacco in the areas where they may become contaminated with this material.

PERSONAL PROTECTIVE EQUIPMENT

Wear splash-proof or dust resistant safety goggles to prevent eye contact with this substance. Wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance. Provide local exhaust or process enclosure ventilation system.

DISPOSAL INFORMATION

SPILL, LEAK, OR RELEASE

NOTE: Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Shovel or sweep up.

Avoid generating dusty conditions. Place in plastic bag or other appropropriate container.

WASTE DISPOSAL

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

STORAGE CONDITIONS

Store in well ventilated area. Keep container tightly closed.

Store at 5 deg C in low humidity (not a safety requirement).

ADDITIONAL INFORMATION AND REFERENCES

ADDITIONAL VENDOR
E. I. du Pont de Nemours & Co., Inc.
Du Pont - NEN Research Products
549 Albany Street
Boston, MA 02118 617-482-9595 (Product Information)
800-441-3637 (Emergency Information)

(ADDITIONAL INFORMATION AND REFERENCES - Continued)

REFERENCES

1. Du Pont MSDS, Medical Products, GLSAR958.
2. Du Pont MSDS, Medical Products, MSDS No. 5946 dated

Material Safety Data Sheet
Buffer Solution pH 4.0 (Color-Coded Red)

ACC# 41128

Section 1 - Chemical Product and Company Identification

MSDS Name: Buffer Solution pH 4.0 (Color-Coded Red)
Catalog Numbers: SB101-20, SB101-4, SB101-500
Synonyms: None.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	98.91	231-791-2
877-24-7	Potassium hydrogen phthalate	1.0	212-889-4
50-00-0	Formaldehyde	0.05	200-001-8
67-56-1	Methyl alcohol	0.02	200-659-6
16423-68-0	Red #3	0.02	240-474-8

Hazard Symbols: None listed.
Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. **Caution!** May cause irritation. This is expected to be a low hazard for usual industrial handling.
Target Organs: No data found.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause mild skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Low hazard for usual industrial handling.
Ingestion: Low hazard for usual industrial handling. May cause gastric disturbances and electrolytic imbalance.
Inhalation: May cause allergic respiratory reaction. May cause respiratory tract irritation. Low hazard for usual industrial handling.
Chronic: May cause cancer according to animal studies.

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Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.
Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. Get medical aid if cough or other symptoms appear.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.
Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash hands before eating. Avoid contact with eyes. Keep container tightly closed. Use with adequate ventilation.
Storage: Store in a cool, dry place. No special precautions indicated.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an

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eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Potassium hydrogen phthalate	none listed	none listed	none listed
Formaldehyde	0.3 ppm Ceiling	0.016 ppm TWA 20 ppm IDLH	0.75 ppm TWA PEL; 2 ppm STEL; 0.5 ppm TWA action level; Irritant and potential c ancer hazard (29 CFR 1910.1048)
Methyl alcohol	200 ppm TWA; 250 ppm STEL; skin - potential for cutaneous absorption	200 ppm TWA; 260 mg/m3 TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m3 TWA
Red #3	none listed	none listed	none listed

OSHA Vacated PELs: Water: No OSHA Vacated PELs are listed for this chemical. Potassium hydrogen phthalate: No OSHA Vacated PELs are listed for this chemical. Formaldehyde: 3 ppm TWA (unless specified in 1910.1048) Methyl alcohol: 200 ppm TWA; 260 mg/m3 TWA Red #3: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear, colorless
Odor: odorless
pH: 4.0
Vapor Pressure: Not available.
Vapor Density: 0.7 (Water)
Evaporation Rate:>1.0 (Ether=1)
Viscosity: Not available.
Boiling Point: 212 deg F
Freezing/Melting Point:32 deg F
Decomposition Temperature: Not available.
Solubility: Soluble in water
Specific Gravity/Density:1.0
Molecular Formula: Mixture
Molecular Weight: Not available

Section 10 - Stability and Reactivity

010898

Chemical Stability: Stable.
Conditions to Avoid: Excess heat.
Incompatibilities with Other Materials: None reported.
Hazardous Decomposition Products: Irritating and toxic fumes and gases.
Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:
CAS# 7732-18-5: ZC0110000
CAS# 877-24-7: CZ4326000
CAS# 50-00-0: LP8925000
CAS# 67-56-1: PC1400000
CAS# 16423-68-0: LM5950000
LD50/LC50:
Not available.

CAS# 877-24-7:
Dermal, guinea pig: LD50 = >1 gm/kg;
Oral, rat: LD50 = >3200 mg/kg;
CAS# 50-00-0:
Draize test, rabbit, eye: 750 ug/24H Severe;
Draize test, rabbit, eye: 750 ug Severe;
Draize test, rabbit, eye: 10 mg Severe;
Draize test, rabbit, skin: 2 mg/24H Severe;
Draize test, rabbit, skin: 50 mg/24H Moderate;
Inhalation, mouse: LC50 = 454 gm/m3/4H;
Inhalation, rat: LC50 = 203 mg/m3;
Oral, mouse: LD50 = 42 mg/kg;
Oral, rat: LD50 = 100 mg/kg;
Skin, rabbit: LD50 = 270 uL/kg;
CAS# 67-56-1:
Draize test, rabbit, eye: 40 mg Moderate;
Draize test, rabbit, eye: 100 mg/24H Moderate;
Draize test, rabbit, skin: 20 mg/24H Moderate;
Inhalation, rat: LC50 = 64000 ppm/4H;
Oral, mouse: LD50 = 7300 mg/kg;
Oral, rabbit: LD50 = 14200 mg/kg;
Oral, rat: LD50 = 5628 mg/kg;
Skin, rabbit: LD50 = 15800 mg/kg;
CAS# 16423-68-0:
Oral, mouse: LD50 = 1264 mg/kg;
Oral, rat: LD50 = 1840 mg/kg;
Carcinogenicity:
CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 877-24-7: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 50-00-0:
ACGIH: A2 - Suspected Human Carcinogen
California: carcinogen; initial date 1/1/88
NIOSH: potential occupational carcinogen
NTP: Suspect carcinogen
OSHA: Possible Select carcinogen
IARC: Group 2A carcinogen CAS# 67-56-1: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
CAS# 16423-68-0: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

010899

Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: CAS# 50-00-0: waste number U122. CAS# 67-56-1: waste number U154 (Ignitable waste).

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	No information available.				No information available.
Hazard Class:					
UN Number:					
Packing Group:					

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 877-24-7 is listed on the TSCA inventory.
CAS# 50-00-0 is listed on the TSCA inventory.
CAS# 67-56-1 is listed on the TSCA inventory.
CAS# 16423-68-0 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA

CERCLA Hazardous Substances and corresponding RQs
CAS# 50-00-0: 100 lb final RQ; 45.4 kg final RQ CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ
SARA Section 302 Extremely Hazardous Substances
CAS# 50-00-0: 500 lb TPQ; 100 lb EPCRA RQ
SARA Codes
CAS # 877-24-7: acute. CAS # 50-00-0: acute, chronic. CAS # 67-56-1: acute, flammable.
Section 313
This material contains Formaldehyde (CAS# 50-00-0, 0 05%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373. This chemical is not at a high enough concentration to be reportable under Section 313.
Clean Air Act:
CAS# 50-00-0 is listed as a hazardous air pollutant (HAP). CAS# 67-56-1 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
CAS# 50-00-0 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 877-24-7 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 50-00-0 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
CAS# 67-56-1 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
CAS# 16423-68-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
WARNING: This product contains Formaldehyde, a chemical known to the state of California to cause cancer. California No Significant Risk Level: CAS# 50-00-0: 40 ug/day NSRL

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
Not available.
Risk Phrases:

Safety Phrases:
S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)
CAS# 7732-18-5: No information available.
CAS# 877-24-7: No information available.
CAS# 50-00-0: 2
CAS# 67-56-1: 1
CAS# 16423-68-0: 1
Canada - DSL/NDSL
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 877-24-7 is listed on Canada's DSL List.
CAS# 50-00-0 is listed on Canada's DSL List.

010901

CAS# 67-56-1 is listed on Canada's DSL List.
CAS# 16423-68-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of Not controlled..

Canadian Ingredient Disclosure List

CAS# 50-00-0 is listed on the Canadian Ingredient Disclosure List.
CAS# 67-56-1 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 50-00-0: OEL-ARAB Republic of Egypt:TWA 2 ppm (3 mg/m3) OEL-AU STRALIA:TWA 1 ppm (1.5 mg/m3);STEL 2 ppm (3 mg/m3);CAR OEL-BELGIUM:TW A 1 ppm (1.2 mg/m3);STEL 2 ppm (2.5 mg/m3);CAR OEL-CZECHOSLOVAKIA:TWA 0.5 mg/m3;STEL 1 mg/m3 OEL-DENMARK:STEL 0.3 ppm (0.4 mg/m3);Carcinog en OEL-FINLAND:STEL 1 ppm (1.3 mg/m3);Skin OEL-FRANCE:STEL 2 ppm (3 mg/m3) OEL-GERMANY:TWA 0.5 ppm (0.6 mg/m3);Carcinogen OEL-HUNGARY:ST EL 0.6 mg/m3;Carcinogen OEL-JAPAN:TWA 0.5 ppm (0.61 mg/m3);Carcinogen OEL-THE NETHERLANDS:TWA 1 ppm (1.5 mg/m3);STEL 2 ppm (3 mg/m3) OEL-THE PHILIPPINES:TWA 5 ppm (6 mg/m3) OEL-POLAND:TWA 2 mg/m3 OEL-RUSSI A:TWA 0.5 ppm;STEL 0.5 mg/m3;Skin OEL-SWEDEN:TWA 0.5 ppm (0.6 mg/m3); STEL 1 ppm (1. mg/m3) OEL-SWITZERLAND:TWA 0.5 ppm (0.6 mg/m3);STEL 1 pp (1.2 mg/m3) OEL-THAILAND:TWA 3 ppm;STEL 5 ppm OEL-TURKEY:TWA 5 pp m (6 mg/m3) OEL-UNITED KINGDOM:TWA 2 ppm (2.5 mg/m3);STEL 2 ppm (2.5 mg/m3) OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

CAS# 67-56-1: OEL-ARAB Republic of Egypt:TWA 200 ppm (260 mg/m3);Ski n OEL-AUSTRALIA:TWA 200 ppm (260 mg/m3);STEL 250 ppm;Skin OEL-BELGIU M:TWA 200 ppm (262 mg/m3);STEL 250 ppm;Skin OEL-CZECHOSLOVAKIA:TWA 10 0 mg/m3;STEL 500 mg/m3 OEL-DENMARK:TWA 200 ppm (260 mg/m3);Skin OEL-FINLAND:TWA 200 ppm (260 mg/m3);STEL 250 ppm;Skin OEL-FRANCE:TWA 200 ppm (260 mg/m3);STEL 1000 ppm (1300 mg/m3) OEL-GERMANY:TWA 200 ppm (2 60 mg/m3);Skin OEL-HUNGARY:TWA 50 mg/m3;STEL 100 mg/m3;Skin JAN9 OEL -JAPAN:TWA 200 ppm (260 mg/m3);Skin OEL-THE NETHERLANDS:TWA 200 ppm (260 mg/m3);Skin OEL-THE PHILIPPINES:TWA 200 ppm (260 mg/m3) OEL-POLA ND:TWA 100 mg/m3 OEL-RUSSIA:TWA 200 ppm;STEL 5 mg/m3;Skin OEL-SWEDEN :TWA 200 ppm (250 mg/m3);STEL 250 ppm (350 mg/m3);Skin OEL-SWITZERLAN D:TWA 200 ppm (260 mg/m3);STEL 400 ppm;Skin OEL-THAILAND:TWA 200 ppm (260 mg/m3) OEL-TURKEY:TWA 200 ppm (260 mg/m3) OEL-UNITED KINGDOM:TW A 200 ppm (260 mg/m3);STEL 250 ppm;Skin OEL IN BULGARIA, COLOMBIA, JO RDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM ch eck ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 10/16/1998
Revision #6 Date: 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

010902

Material Safety Data Sheet
Buffer Solution pH 7.0 (Color-Coded Yellow)

ACC# 41138

Section 1 - Chemical Product and Company Identification

MSDS Name: Buffer Solution pH 7.0 (Color-Coded Yellow)
Catalog Numbers: S71897, SB107-20, SB107-4, SB107-500, SB107500LC
Synonyms: None.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Water	99.18	231-791-2
7778-77-0	Potassium phosphate monobasic	0.7	231-913-4
1310-73-2	Sodium hydroxide	0.1	215-185-5
1934-21-0	FD&C Yellow 5	0.0-0.02	217-699-5

Hazard Symbols: None listed.
Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: yellow liquid. **Caution!** May cause irritation. This is expected to be a low hazard for usual industrial handling.
Target Organs: None.

Potential Health Effects
Eye: May cause mild eye irritation.
Skin: Non-irritating to the skin. Low hazard for usual industrial handling.
Ingestion: Low hazard for usual industrial handling. May cause gastric disturbances and electrolytic imbalance.
Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling.
Chronic: None

Section 4 - First Aid Measures

010903

Eyes: Gently lift eyelids and flush continuously with water. If irritation develops, get medical aid.
Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.
Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. Get medical aid if cough or other symptoms appear.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible.
Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

Section 7 - Handling and Storage

Handling: Wash hands before eating. Avoid contact with eyes. Keep container tightly closed. Use with adequate ventilation.
Storage: Store in a cool, dry place. No special precautions indicated.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Good general ventilation should be sufficient to control airborne levels. Use adequate ventilation to keep airborne concentrations low.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Potassium phosphate	none listed	none listed	none listed

monobasic			
Sodium hydroxide	2 mg/m3 Ceiling	10 mg/m3 IDLH	2 mg/m3 TWA
FD&C Yellow 5	none listed	none listed	none listed

OSHA Vacated PELs: Water: No OSHA Vacated PELs are listed for this chemical. Potassium phosphate monobasic: No OSHA Vacated PELs are listed for this chemical. Sodium hydroxide: No OSHA Vacated PELs are listed for this chemical. FD&C Yellow 5: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Protective garments not normally required.

Clothing: Protective garments not normally required.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: yellow
Odor: odorless
pH: 7.00 @ 25C
Vapor Pressure: 760 mm Hg @ 20C
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 212 deg F
Freezing/Melting Point:32 deg F
Decomposition Temperature: Not available.
Solubility: Soluble in water
Specific Gravity/Density:1.0
Molecular Formula: Mixture
Molecular Weight: Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable.
Conditions to Avoid: None reported.
Incompatibilities with Other Materials: None reported.
Hazardous Decomposition Products: None.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 7732-18-5: ZC0110000

CAS# 7778-77-0: TC6615500
CAS# 1310-73-2: WB4900000
CAS# 1934-21-0: UQ6400000
LD50/LC50:
Not available.
Not available.
Not available.
Not available.

Carcinogenicity:
CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 7778-77-0: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 1310-73-2: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 1934-21-0: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: No data available.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: No information found.
Physical: No information found.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	No information available.				No information available.
Hazard Class:					
UN Number:					
Packing Group:					

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 7778-77-0 is listed on the TSCA inventory.
CAS# 1310-73-2 is listed on the TSCA inventory.
CAS# 1934-21-0 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA

CERCLA Hazardous Substances and corresponding RQs
CAS# 1310-73-2: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 7778-77-0: acute. CAS # 1310-73-2: acute, reactive. CAS # 1934-21-0: acute.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
CAS# 1310-73-2 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 7778-77-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 1310-73-2 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
CAS# 1934-21-0 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
Not available.
Risk Phrases:

Safety Phrases:
S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 7732-18-5: No information available.
CAS# 7778-77-0: 1
CAS# 1310-73-2: 1
CAS# 1934-21-0: 1

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 7778-77-0 is listed on Canada's DSL List.
CAS# 1310-73-2 is listed on Canada's DSL List.
CAS# 1934-21-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of Not controlled..

Canadian Ingredient Disclosure List

CAS# 1310-73-2 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 1310-73-2: OEL-AUSTRALIA:TWA 2 mg/m3 OEL-BELGIUM:STEL 2 mg/m3 OEL-DENMARK:TWA 2 mg/m3 OEL-FINLAND:TWA 2 mg/m3 OEL-FRANCE:TWA 2 mg /m3 OEL-GERMANY:TWA 2 mg/m3 OEL-JAPAN:STEL 2 mg/m3 OEL-THE NETHERLA NDS:TWA 2 mg/m3 OEL-THE PHILIPPINES:TWA 2 mg/m3 OEL-SWEDEN:TWA 2 mg/ m3 OEL-SWITZERLAND:TWA 2 mg/m3;STEL 4 mg/m3 OEL-THAILAND:TWA 2 mg/m3 OEL-TURKEY:TWA 2 mg/m3 OEL-UNITED KINGDOM:TWA 2 mg/m3;STEL 2 mg/m3 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 11/19/1998
Revision #5 Date: 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

VIROMED LABORATORIES, INC.

MATERIAL SAFETY DATA SHEET

Product: Primary Cell Culture Products

Manufacturer: ViroMed Laboratories, Inc.
6101 Blue Circle Drive
Minneapolis MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Chemical Hazard Information

These products are not considered chemically hazardous according to the OSHA Communication Standard 29CFR 1910:1200. ViroMed is providing this abbreviated MSDS containing information that will aid you in the proper handling and disposal of these products. PLEASE NOTE: Contact with product may irritate the eyes, skin or mucous membranes. To limit exposure, exercise caution, use protective laboratory equipment and wear personal protective equipment when handling cell culture products. Good laboratory procedures (such as the use of safety pipetting devices) are essential for safe use.

Biohazard Information

Primary cell products may contain endogenous viruses and/or other microorganisms and should be handled with appropriate biohazardous safety precautions. To limit exposure, exercise caution, use protective laboratory equipment such as laminar flow biosafety cabinets, and wear personal protective equipment when handling cell culture products. Using good laboratory procedures (such as the use of safety pipetting devices) are essential for safe use.

Fire and Spill Information

Cell culture products are not flammable or explosive, and therefore do not present a fire or explosion hazard. In case of a spill, collect material in an inert absorbent. Collect spilled material in a leak proof container and dispose of according to Federal, State and local regulations. Autoclaving and incineration of cell culture products are recommended methods of decontamination prior to disposal.

First Aid

Eye Contact: Flush promptly with copious amounts of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.

Skin Contact: Wash area thoroughly with disinfectant and water.

Personal Protective Equipment

The use of laminar flow biosafety cabinets is strongly recommended. Safety glasses and gloves may also be used to avoid contact. Additional protective clothing such as lab coats or aprons may be required as work conditions indicate.

An eyewash station should be available near the working area.

VML0902051A

MATERIAL SAFETY DATA SHEET

Product: Serially Propagated Cell Culture Products

Manufacturer: ViroMed Laboratories, Inc.
6101 Blue Circle Drive
Minneapolis MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Hazard Information

These products are not considered hazardous according to the OSHA Communication Standard 29CFR 1910:1200. ViroMed is providing this abbreviated MSDS containing information that will aid you in the proper handling and disposal of these products. PLEASE NOTE: Contact with product may irritate the eyes, skin or mucous membranes. To limit exposure, exercise caution, use protective laboratory equipment such as laminar flow biosafety cabinets, and wear personal protective equipment when handling cell culture products. Good laboratory procedures (such as the use of safety pipetting devices) are essential for safe use.

Fire and Spill Information

Cell culture products are not flammable or explosive, and therefore do not present a fire or explosion hazard. In case of a spill, collect material in an inert absorbent. Collect spilled material in a leak proof container and dispose of according to Federal, State and local regulations. Autoclaving and incineration of cell culture products are recommended methods of decontamination prior to disposal.

First Aid

Eye Contact: Flush promptly with copious amounts of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.

Skin Contact: Wash area thoroughly with disinfectant and water.

Personal Protective Equipment

The use of laminar flow biosafety cabinets is strongly recommended. Safety glasses and gloves may also be used to avoid contact. Additional protective clothing such as lab coats or aprons may be required as work conditions indicate.

An eyewash station should be available near the working area.

VML0902052A

MATERIAL SAFETY DATA SHEET

Section I: Material Identification
Material Name: Human lung carcinoma cells (A549)
Other Designations: None
Manufacturer: ViroMed Laboratories, Inc.

6101 Blue Circle Drive • Minneapolis, MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Section II: Ingredients and Hazards
Not Applicable.

Section III: Physical Data.
Not Applicable.

Section IV: Fire and Explosion Data.
Materials are not flammable or explosive, and therefore do not present a fire or explosion hazard.

Section V: Reactivity Data.
Cell cultures are stable and do not undergo hazardous polymerization.

Section VI: Health Hazard Information.
Cell cultures should be handled precautiously avoiding contact with skin or mucous membranes. All pipetting should be performed by use of a safety pipet device. Report all injuries or unusual accidents to safety personnel.

First Aid:
Eye Contact: Flush promptly with plenty of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.
Skin Contact: Wash off with water and disinfectant.

Section VII: Spill, Leak and Disposal Procedures.
Report large spills to safety personnel. Flush area with water and disinfectant.

Disposal: Incineration is a recommended method to dispose of cell cultures.

Section VIII: Special Protection Information.
A laminar flow safety hood may be provided for working with cell cultures. Safety glasses and gloves may be used to avoid contact. Additional protective clothing (coats, aprons) may be required as work conditions indicate.

An eyewash station should be available near workplace.

Section IX: Special Precautions and Comments.
Not applicable.

Approvals: _____

Safety Officer: _____

Review: November, 1990

MATERIAL SAFETY DATA SHEET

Section I: Material Identification
Material Name: Human newborn foreskin (SF)
Other Designations: None
Manufacturer: ViroMed Laboratories, Inc.

6101 Blue Circle Drive • Minneapolis, MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Section II: Ingredients and Hazards
Not Applicable.

Section III: Physical Data.
Not Applicable.

Section IV: Fire and Explosion Data.
Materials are not flammable or explosive, and therefore do not present a fire or explosion hazard.

Section V: Reactivity Data.
Cell cultures are stable and do not undergo hazardous polymerization.

Section VI: Health Hazard Information.
Cell cultures should be handled precautiously avoiding contact with skin or mucous membranes. All pipetting should be performed by use of a safety pipet device. Report all injuries or unusual accidents to safety personnel.

First Aid:
Eye Contact: Flush promptly with plenty of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.
Skin Contact: Wash off with water and disinfectant.

Section VII: Spill, Leak and Disposal Procedures.
Report large spills to safety personnel. Flush area with water and disinfectant.

Disposal: Incineration is a recommended method to dispose of cell cultures.

Section VIII: Special Protection Information.
A laminar flow safety hood may be provided for working with cell cultures. Safety glasses and gloves may be used to avoid contact. Additional protective clothing (coats, aprons) may be required as work conditions indicate.

An eyewash station should be available near workplace.

Section IX: Special Precautions and Comments.
Not applicable.

Approvals: _____

Safety Officer: _____

Review: November, 1990

MATERIAL SAFETY DATA SHEET

Section I: Material Identification
Material Name: Human embryonic lung cells (MRC-5)
Other Designations: None
Manufacturer: ViroMed Laboratories, Inc.

6101 Blue Circle Drive • Minneapolis, MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Section II: Ingredients and Hazards
Not Applicable.

Section III: Physical Data.
Not Applicable.

Section IV: Fire and Explosion Data.
Materials are not flammable or explosive, and therefore do not present a fire or explosion hazard.

Section V: Reactivity Data.
Cell cultures are stable and do not undergo hazardous polymerization.

Section VI: Health Hazard Information.
Cell cultures should be handled precautiously avoiding contact with skin or mucous membranes. All pipetting should be performed by use of a safety pipet device. Report all injuries or unusual accidents to safety personnel.

First Aid:
Eye Contact: Flush promptly with plenty of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.
Skin Contact: Wash off with water and disinfectant.

Section VII: Spill, Leak and Disposal Procedures.
Report large spills to safety personnel. Flush area with water and disinfectant.

Disposal: Incineration is a recommended method to dispose of cell cultures.

Section VIII: Special Protection Information.
A laminar flow safety hood may be provided for working with cell cultures. Safety glasses and gloves may be used to avoid contact. Additional protective clothing (coats, aprons) may be required as work conditions indicate.

An eyewash station should be available near workplace.

Section IX: Special Precautions and Comments.
Not applicable.

Approvals: _____

Safety Officer: Greg Kiegdahl

Review: November, 1990

MATERIAL SAFETY DATA SHEET

Section I: Material Identification
Material Name: Rhesus monkey kidney cells (RMK)
Other Designations: Macaca mulatta kidney cells
Manufacturer: ViroMed Laboratories, Inc.

6101 Blue Circle Drive • Minneapolis, MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Section II: Ingredients and Hazards
Not Applicable.

Section III: Physical Data.
Not Applicable.

Section IV: Fire and Explosion Data.
Materials are not flammable or explosive, and therefore do not present a fire or explosion hazard.

Section V: Reactivity Data.
Cell cultures are stable and do not undergo hazardous polymerization.

Section VI: Health Hazard Information.
Cell cultures should be handled precautiously avoiding contact with skin or mucous membranes. All pipetting should be performed by use of a safety pipet device. Report all injuries or unusual accidents to safety personnel.

First Aid:
Eye Contact: Flush promptly with plenty of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.
Skin Contact: Wash off with water and disinfectant.

Section VII: Spill, Leak and Disposal Procedures.
Report large spills to safety personnel. Flush area with water and disinfectant.

Disposal: Incineration is a recommended method to dispose of cell cultures.

Section VIII: Special Protection Information.
A laminar flow safety hood may be provided for working with cell cultures. Safety glasses and gloves may be used to avoid contact. Additional protective clothing (coats, aprons) may be required as work conditions indicate.

An eyewash station should be available near workplace.

Section IX: Special Precautions and Comments.
Not applicable.

Approvals: [signature]

Safety Officer: [signature]

Review: November, 1990

MATERIAL SAFETY DATA SHEET

Section I: Material Identification
Material Name: African green monkey kidney cells (Vero)
Other Designations: None
Manufacturer: ViroMed Laboratories, Inc.

6101 Blue Circle Drive • Minneapolis, MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Section II: Ingredients and Hazards
Not Applicable.

Section III: Physical Data.
Not Applicable.

Section IV: Fire and Explosion Data.
Materials are not flammable or explosive, and therefore do not present a fire or explosion hazard.

Section V: Reactivity Data.
Cell cultures are stable and do not undergo hazardous polymerization.

Section VI: Health Hazard Information.
Cell cultures should be handled precautiously avoiding contact with skin or mucous membranes. All pipetting should be performed by use of a safety pipet device. Report all injuries or unusual accidents to safety personnel.

First Aid:
Eye Contact: Flush promptly with plenty of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.
Skin Contact: Wash off with water and disinfectant.

Section VII: Spill, Leak and Disposal Procedures.
Report large spills to safety personnel. Flush area with water and disinfectant.

Disposal: Incineration is a recommended method to dispose of cell cultures.

Section VIII: Special Protection Information.
A laminar flow safety hood may be provided for working with cell cultures. Safety glasses and gloves may be used to avoid contact. Additional protective clothing (coats, aprons) may be required as work conditions indicate.

An eyewash station should be available near workplace.

Section IX: Special Precautions and Comments.
Not applicable.

Approvals: _____

Safety Officer: _____

Review: November, 1990

MATERIAL SAFETY DATA SHEET

Section I: Material Identification
Material Name: Human embryonic lung (WI-38)
Other Designations: None
Manufacturer: ViroMed Laboratories, Inc.

6101 Blue Circle Drive • Minneapolis, MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Section II: Ingredients and Hazards
Not Applicable.

Section III: Physical Data.
Not Applicable.

Section IV: Fire and Explosion Data.
Materials are not flammable or explosive, and therefore do not present a fire or explosion hazard.

Section V: Reactivity Data.
Cell cultures are stable and do not undergo hazardous polymerization.

Section VI: Health Hazard Information.
Cell cultures should be handled precautiously avoiding contact with skin or mucous membranes. All pipetting should be performed by use of a safety pipet device. Report all injuries or unusual accidents to safety personnel.

First Aid:
Eye Contact: Flush promptly with plenty of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.
Skin Contact: Wash off with water and disinfectant.

Section VII: Spill, Leak and Disposal Procedures.
Report large spills to safety personnel. Flush area with water and disinfectant.

Disposal: Incineration is a recommended method to dispose of cell cultures.

Section VIII: Special Protection Information.
A laminar flow safety hood may be provided for working with cell cultures. Safety glasses and gloves may be used to avoid contact. Additional protective clothing (coats, aprons) may be required as work conditions indicate.

An eyewash station should be available near workplace.

Section IX: Special Precautions and Comments.
Not applicable.

Approvals: _____

Safety Officer: _____

Review: November, 1990

MATERIAL SAFETY DATA SHEET

Section I: Material Identification
Material Name: Canine kidney cells (MDCK)
Other Designations: None
Manufacturer: ViroMed Laboratories, Inc.

6101 Blue Circle Drive • Minneapolis, MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Section II: Ingredients and Hazards
Not Applicable.

Section III: Physical Data.
Not Applicable.

Section IV: Fire and Explosion Data.
Materials are not flammable or explosive, and therefore do not present a fire or explosion hazard.

Section V: Reactivity Data.
Cell cultures are stable and do not undergo hazardous polymerization.

Section VI: Health Hazard Information.
Cell cultures should be handled precautiously avoiding contact with skin or mucous membranes. All pipetting should be performed by use of a safety pipet device. Report all injuries or unusual accidents to safety personnel.

First Aid:
Eye Contact: Flush promptly with plenty of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.
Skin Contact: Wash off with water and disinfectant.

Section VII: Spill, Leak and Disposal Procedures.
Report large spills to safety personnel. Flush area with water and disinfectant.

Disposal: Incineration is a recommended method to dispose of cell cultures.

Section VIII: Special Protection Information.
A laminar flow safety hood may be provided for working with cell cultures. Safety glasses and gloves may be used to avoid contact. Additional protective clothing (coats, aprons) may be required as work conditions indicate.

An eyewash station should be available near workplace.

Section IX: Special Precautions and Comments.
Not applicable.

Approvals: _____

Safety Officer: Greg Wagschal

Review: November, 1990

MATERIAL SAFETY DATA SHEET

Section I: Material Identification
Material Name: Rhesus Monkey Kidney (LLC-MK_2)
Other Designations:
Manufacturer: ViroMed Laboratories, Inc.

6101 Blue Circle Drive • Minneapolis, MN 55343
(800) 582-0077 • (612) 931-0077 • FAX (612) 939-4215

Section II: Ingredients and Hazards
Not Applicable.

Section III: Physical Data.
Not Applicable.

Section IV: Fire and Explosion Data.
Materials are not flammable or explosive, and therefore do not present a fire or explosion hazard.

Section V: Reactivity Data.
Cell cultures are stable and do not undergo hazardous polymerization.

Section VI: Health Hazard Information.
Cell cultures should be handled precautiously avoiding contact with skin or mucous membranes. All pipetting should be performed by use of a safety pipet device. Report all injuries or unusual accidents to safety personnel.

First Aid:
Eye Contact: Flush promptly with plenty of running water for 15 minutes, including under eyelids. Contact a physician if irritation persists.
Skin Contact: Wash off with water and disinfectant.

Section VII: Spill, Leak and Disposal Procedures.
Report large spills to safety personnel. Flush area with water and disinfectant.

Disposal: Incineration is a recommended method to dispose of cell cultures.

Section VIII: Special Protection Information.
A laminar flow safety hood may be provided for working with cell cultures. Safety glasses and gloves may be used to avoid contact. Additional protective clothing (coats, aprons) may be required as work conditions indicate.

An eyewash station should be available near workplace.

Section IX: Special Precautions and Comments.
Not applicable.

Approval: Hayla Kalina

Safety Officer: Greg Nieghorn

Review: November, 1990

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

MATERIAL SAFETY DATA SHEET

Product Codes: Multiple Codes by Cell type
Product Name: Multiple Cell line types

IT-031v1.5 Rev. Date: 6/5/03

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: FreshCells™ Cell Cultures
Synonyms: Cultured cells; tube cultures; shell vials; cell cultures for virology
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
The cell culture and its liquid covering are not hazardous as defined by OSHA 1910.1200.
The cell culture, being live, should be considered a potential biohazard. It is a layer on the bottom of the vessel.
The liquid covering the culture is an aqueous biological salt- and nutrient-containing medium, which also contains fetal bovine serum at 7%, with one or more antimicrobials (Penicillin, Streptomycin, Gentamicin, and/or Amphotericin B)

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red/pink in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Stable. Hazardous polymerization will not occur.

Section VI: Health Hazard Data
Material is not known to harbor agents known to cause disease in healthy adult humans. It has not been screened for Hepatitis, human immunodeficiency viruses or other adventitious agents. It has been cultured and used in the laboratory for a number of years.
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or from inhalation or ingestion of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum components.

Section VII: Precautions for Safe Handling and Use
During shipping and at receipt: Handle material in accordance with **BIOSAFETY LEVEL 1** conditions.
During use and disposal: Handle material using Good Laboratory Practices, in accordance with **BIOSAFETY LEVEL 2** conditions, as product potentially may be inoculated with human specimen material.
If solution is spilled: take up with an absorbent material; if contact is possible, wear gloves as protection. Decontaminate with suitable disinfectants such as chlorine bleach or 70% ethyl or isopropyl alcohol.
Storage Temperature: 18°C to 30°C.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

Additional references:
Biosafety in Microbiological and Biomedical Laboratories, 4th ed, 1999; U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health.

ATCC Quality Control Methods for Cell Lines, 2nd ed, 1992; American Type Culture Collection.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide. Please contact Diagnostic Hybrids, Inc. if additional information is required.

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

MATERIAL SAFETY DATA SHEET

Product Codes: 49-xxxx
Product Name: FreshCells™ Primary RhMK Culture

PI-066v1.0 Rev. Date: 01-28-2003

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: FreshCells™ Primary RhMK Culture
Synonyms: Primary Rhesus culture; pRhMK; Primary Rhesus monkey kidney cells
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
The cell culture and its liquid covering are not hazardous as defined by OSHA 1910.1200.
The cell culture, being live, should be considered a potential biohazard. It is a layer on the bottom of the vessel.
The liquid covering the culture is an aqueous biological salt- and nutrient-containing medium, which also contains fetal bovine serum at 4-10%, and Gentamicin as an antimicrobial.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red/pink in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Stable. Hazardous polymerization will not occur.

Section VI: Health Hazard Data
Material may contain simian viruses, some of which may be hazardous to humans. It has not been screened for Hepatitis, human immunodeficiency viruses or other adventitious agents.
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or from inhalation or ingestion of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum components.

Section VII: Precautions for Safe Handling and Use
Handle material using Good Laboratory Practices, in accordance with **BIOSAFETY LEVEL 2** conditions, as product potentially may harbor simian viruses or may be inoculated with human specimen material.
If solution is spilled: take up with an absorbent material; if contact is possible, wear gloves as protection. Decontaminate with suitable disinfectants such as chlorine bleach or 70% ethyl or isopropyl alcohol.
Storage Temperature: 18°C to 30°C.

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General Protection and Precautions:
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Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

Additional references:
Biosafety in Microbiological and Biomedical Laboratories, 4th ed, 1999; U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health.

ATCC Quality Control Methods for Cell Lines, 2nd ed, 1992; American Type Culture Collection.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide. Please contact Diagnostic Hybrids, Inc. if additional information is required. [end]

January 14, 2004

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - -

CATALOG #: C6255

NAME: CYCLOHEXIMIDE FROM STREPTOMYCES GRISEUS

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #: 66-81-9

MF: C15H23NO4

EC NO: 200-636-0

SYNONYMS

ACTI-AID * ACTIDION * ACTIDIONE * ACTIDIONE BR * ACTIDIONE PM * ACTIDIONE TGF * ACTISPRAY * AKTIDION (CZECH) * CYCLOHEXIMIDE * BETA-(2-(3,5-DIMETHYL-2-OXOCYCLOHEXYL)-2-HYDROXYETHYL)GLUTARIMIDE * 3-(2-(3,5-DIMETHYL-2-OXOCYCLOHEXYL)-2-HYDROXYETHYL)GLUTARIMIDE * HIZAROCIN * KAKEN * NARAMYCIN * NARAMYCIN A * NEOCYCLOHEXIMIDE * NSC-185 * U-4527 *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA)

VERY TOXIC (EU)

VERY TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

POSSIBLE RISK OF HARM TO THE UNBORN CHILD.

CALIF. PROP. 65 REPRODUCTIVE HAZARD.

POSSIBLE SENSITIZER.

TARGET ORGAN(S):

LIVER

NERVES

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

EXTINGUISHING MEDIA

WATER SPRAY.

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES.

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.

010921

AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
HIGHLY TOXIC.
IRRITANT.
POSSIBLE SENSITIZER.
POSSIBLE TERATOGEN.
POSSIBLE MUTAGEN.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
OFF-WHITE POWDER
PHYSICAL PROPERTIES
MELTING POINT: 110 C TO 111 C

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
STRONG BASES
ACID CHLORIDES
ACID ANHYDRIDES
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
MAY BE FATAL IF INHALED, SWALLOWED, OR ABSORBED THROUGH SKIN.
CAUSES EYE IRRITATION.
CAUSES SEVERE SKIN IRRITATION.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
PROLONGED OR REPEATED EXPOSURE MAY CAUSE ALLERGIC REACTIONS IN CERTAIN SENSITIVE INDIVIDUALS.
CHRONIC EFFECTS
OVEREXPOSURE MAY CAUSE REPRODUCTIVE DISORDER(S) BASED ON TESTS WITH LABORATORY ANIMALS.
LABORATORY EXPERIMENTS HAVE SHOWN MUTAGENIC EFFECTS.
TARGET ORGAN(S):
LIVER, KIDNEYS
NERVES
G.I. SYSTEM
PANCREAS

RTECS #: MA4375000
GLUTARIMIDE, 3-(2-(3,5-DIMETHYL-2-OXOCYCLOHEXYL)-2-HYDROXYETHYL)-

IRRITATION DATA

SKN-RBT 5 MG/24H RINSE	TXCYAC 14,117,79
SKN-RBT 1 PPH/24H MOD	NTIS** PB274-414

TOXICITY DATA

ORL-RAT LD50:2 MG/KG	UPJOH* 2(6),-,71
IPR-RAT LD50:3700 UG/KG	JPETAB 136,400,62

010922

SCU-RAT LD50:2500 UG/KG	ANTCAO 10,682,60
IVN-RAT LD50:2 MG/KG	ANTCAO 10,682,60
UNR-RAT LD50:133 MG/KG	YKYUA6 30,397,79
ORL-MUS LD50:133 MG/KG	UPJOH* 2(6),-,71
IPR-MUS LD50:100 MG/KG	CNCRA6 30,9,63
SCU-MUS LD50:160 MG/KG	UPJOH* 2(6),-,71
IVN-MUS LD50:150 MG/KG	JACSAT 69,474,47
ORL-DOG LD50:65 MG/KG	PCOC** -,292,66
IVN-DOG LD50:1 MG/KG	ARZNAD 8,687,58
ORL-MKY LD50:60 MG/KG	GUCHAZ 6,146,73
IPR-CAT LD50:4 MG/KG	JACSAT 70,1223,48
IVN-RBT LD50:17 MG/KG	JACSAT 70,1223,48
ORL-GPG LD50:65 MG/KG	PCOC** -,292,66
IPR-GPG LD50:60 MG/KG	ANTCAO 10,682,60
SCU-GPG LD50:60 MG/KG	JACSAT 70,1223,48

TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)
GASTROINTESTINAL (HYPERMOTILITY, DIARRHEA)
GASTROINTESTINAL (NAUSEA OR VOMITING)
SKIN AND APPENDAGES (HAIR)
MATERNAL EFFECTS (UTERUS, CERVIX, VAGINA)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON FERTILITY (OTHER MEASURES OF FERTILITY)
EFFECTS ON EMBRYO OR FETUS (EXTRA EMBRYONIC STRUCTURES)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CENTRAL NERVOUS SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CRANIOFACIAL)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CARDIOVASCULAR SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (HEPATOBILIARY SYSTEM)
EFFECTS ON NEWBORN (GROWTH STATISTICS)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

EUROPEAN INFORMATION
VERY TOXIC
R 26/27/28
VERY TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
R 63
POSSIBLE RISK OF HARM TO THE UNBORN CHILD.
S 45
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
S 36/37/39
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION

010923

FEREAC 54,7740,89
NOHS 1974: HZD 84338; NIS 3; TNF 968; NOS 6; TNE 4439
NOES 1983: HZD 84338; NIS 2; TNF 234; NOS 7; TNE 3059; TFE 2370
EPA GENETOX PROGRAM 1988, POSITIVE: E COLI POLA WITH S9; SPERM MORPHOLOGY-MOUSE
EPA GENETOX PROGRAM 1988, NEGATIVE: N CRASSA-ANEUPLOIDY
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: CARCINOGENICITY-MOUSE/RAT
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: D MELANOGASTER-WHOLE SEX CHROM. LOSS
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: MAMMALIAN MICRONUCLEUS; E COLI POLA WITHOUT S9

U.S. INFORMATION

CALIFORNIA PROPOSITION 65:
THIS PRODUCT IS OR CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE DEVELOPMENTAL TOXICITY.

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: 55-01xx, 55-24xx, 55-96xx
Product Name: Elvis® HSV Cells

Rev. Date: 06-01-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: Elvis® HSV Cells
Synonyms: Baby Hamster Kidney Cells genetically engineered to include a plasmid containing the G418 resistance marker and a plasmid containing the *E. coli lacZ* gene driven by the promoter from the HSV type 1 UL39 gene.
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
CAUTION: Contains a monolayer of Elvis® HSV cells, which should be handled in accordance with Biosafety Level 2 (moderate biohazard) conditions (Reference: Biosafety in Microbiological and Biomedical Laboratories, 3rd ed., U.S. Public Health Service.)
Cells are cultured in an aqueous biological salt- and nutrient-containing medium, which also contains fetal bovine serum at 7%, with Penicillin and Streptomycin as antimicrobials.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum components.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices, in accordance with Biosafety Level 2 conditions.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 18°C to 37°C.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide.
[end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: 10-220026,10-220100, 10-220500
Product Name: Elvis® Replacement Medium

Rev. Date: 06-13-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: Elvis® Replacement Medium (for the detection of HSV-1 and HSV-2 viruses in Elvis®HSV cell culture)
Synonyms: Elvis® RM
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
7% fetal bovine serum in an aqueous, biological salt and nutrient-containing solution; contains Penicillin , Streptomycin, and Amphotericin B as antimicrobials.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum, penicillin, streptomycin, or amphotericin B.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 8°C

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct, but Diagnostic Hybrids, Inc., does not purport it to be all-inclusive; this should be used only as a guide.
[end]

UNCONTROLLED DOCUMENT
NOT SUBJECT TO UPDATE

HyClone

HyClone Laboratories, Inc.
Cell Culture Division - Sera/Media

Specification Control Document

Title: Liquid Cell Culture Medium With Bovine Serum		Doc. No. [redacted] Revision: 3
Department: Product Development Area:	*Approved & Released Specification Control Document*	Implementation Date: 01/20/2004
Type of Document: MSDS - Material Safety Data Sheet		Review Period - 0 Days

Product Information:

	Product Line: Material Safety Data Sheet
Product Code: MSDS #76	
Description: Liquid Cell Culture Medium With Bovine Serum	

MATERIAL SAFETY DATA SHEET
IMPORTANT INFORMATION
PLEASE READ CAREFULLY
LIQUID CELL CULTURE MEDIUM WITH BOVINE SERUM
MSDS No.: 76

DESCRIPTION: Liquid media is a mixture of components that may include, but is not limited to: inorganic salts, vitamins, amino acids, carbohydrates and other nutrients. In addition, this product contains bovine serum.

SECTION I

HAZARDOUS INGREDIENTS: All blood products should be treated as potentially infectious. Source material from which this material was derived was found negative when tested in accordance with current FDA required tests. No known test methods can offer assurance that products derived from blood will not transmit infectious agents. Good Laboratory Practices ("GLPs") should be followed when using this product.

SECTION II

PHYSICAL DATA: Clear pink or red liquid; physical properties similar to water. May have slight blood odor.

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UNCONTROLLED DOCUMENT
NOT SUBJECT TO UPDATE

SECTION III

HEALTH HAZARDS: This product contains no hazardous materials as defined by the OSHA Hazards Communication Standards. In the event of a spill or accident involving this material, good personal hygiene and Good Laboratory Practices ("GLPs") should be used to avoid contact.

SECTION IV

FIRE AND EXPLOSION: Not flammable.

SECTION V

REACTIVITY DATA: Will not undergo hazardous polymerization.

SECTION VI

METHOD OF DISPOSAL: Autoclave (or treat with chlorine bleach), then flush down sanitary sewer with plenty of water, or incinerate in an approved facility. Dispose in accordance with local and federal regulations. For spills, mop up with paper towels and treat with an excess of chlorine bleach. Rinse treated liquids down the sink with plenty of water, and dispose of used paper towels in the trash.

SECTION VII

PROTECTIVE CLOTHING: Lab coat, gloves and goggles are adequate under most conditions; for processes that generate aerosols, splashed liquids etc., additional personal protective equipment may be required.

SECTION VIII

SPECIAL PRECAUTIONS/COMMENTS: Store at: 2° C to 8° C.

THE ABOVE INFORMATION IS CORRECT TO THE BEST OF OUR KNOWLEDGE. ALL MATERIALS AND MIXTURES MAY PRESENT UNKNOWN HAZARDS AND SHOULD BE USED WITH CAUTION. THE USER SHOULD MAKE INDEPENDENT DECISIONS REGARDING COMPLETENESS OF THIS INFORMATION BASED ON ALL SOURCES AVAILABLE. HYCLONE LABORATORIES SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.

Associated Documents:

Document Revision History:

Revision: 3	Date Created: 11/12/1998 Date of Last Revision: 01/20/2004	Last Approval Date: 01/20/2004
Document Author: Tim Syndergaard	Document Manager: Brian Foundy	

Reason for Change:

Revision	Description of Change
1	Initial Release
2	Title: chagned to reflect Bovine Serum. Hazardous Ingredients: remove reference of human

UNCONTROLLED DOCUMENT
NOT SUBJECT TO UPDATE

	sourced components. Health Hazards: remove reference of human sourced componets.
3	Change description to remove reference to human sourced components.

Notification List:

Approvals:

First Approver's Signature

Name: Brittni Roundy
Title: Documentation Coordinator

Jan 20, 2004 8:44:37 AM MST - Approved by: Brittni Roundy/UsLgn/Perbio

Second Approver's Signature

Name: John Gilbert
Title: QA Specialist

Jan 19, 2004 10:06:24 AM MST - Approved by: John Gilbert/UsLgn/Perbio

Third Approver's Signature

Name: Sandi Hansen
Title: Custom Media Product Manager

Jan 15, 2004 5:28:24 PM MST - Approved by: Sandi Hansen/UsLgn/Perbio

Document History Section

IRVINE SCIENTIFIC™

IRVINE SCIENTIFIC MATERIAL SAFETY DATASHEET

Irvine Scientific supplies Material Safety Data Sheets for products you have purchased. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200, as well as several state and local laws and regulations, have been considered in their preparation.

All information is offered gratuitously and in good faith as accurate, but is furnished without guaranty. No claim is made that the information is all-inclusive, and it should be used only as a guide. Irvine Scientific shall not be held liable for any damage resulting from handling or from contact with the product.

SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	**9355**
Description:	**Gentamicin Sulfate Solution**
Formulation:	50 mg Gentamicin base per ml in water

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:	Clear colorless solution		
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

2511 Daimler Street • Santa Ana, CA • 92705-5588 • 714-261-7800 • 800-437-5706 • FAX: 714-261-6522 • http://irvinesci.com

IRVINE SCIENTIFIC
MATERIAL SAFETY DATA SHEET

Gentamicin Sulfate Solution
CATALOG NO. 9355

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

SECTION VI - REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing. Wash spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection:	Safety glasses with side shields and gloves are recommended.
Storage:	Store as recommended on label. There are no special requirements.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product	Gentamicin sulfate
Part number	17-518, 17-519, 17-528
Chemical characterization	Aqueous solution of Gentamicin Sulfate
Supplier	Cambrex Bio Science Walkersville, Inc. 8830 Biggs Ford Road Walkersville, MD 21793-0127
Emergency telephone number	1-800-424-9300 (Chemtrec)
Product use	Bacterial growth inhibitor
Canadian PIN	N/A

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Name	CAS Number	EU Inventory Number	EC Classification
Gentamicin sulfate	1405-41-0	215-778-98	Xn; R68/21/22 Xi; R38 R43

Other components

Name	CAS Number	EU Inventory Number
Water	7732-18-5	231-791-2

See Section 15 of this MSDS for OSHA Regulatory Status
See Section 16 of this MSDS for additional component information and for explanation of R-phrases

3. HAZARDS IDENTIFICATION

Emergency overview

Pale yellow, odorless solution. Caution. May cause skin irritation or allergic skin reactions.

Will not burn. Incase of fire, use extinguishing media suitable for the material that is burning.

Primary route(s) of entry Skin contact

Symptoms of exposure

Inhalation None known.

Eye contact May cause transient stinging.

Skin contact	May cause irritation, itching and redness. May cause allergic skin reactions. Prolonged and repeated contact with large areas of the skin may cause hearing loss.
Ingestion	May cause irritation to gastro-intestinal tract, adverse health effects.
Medical conditions aggravated by exposure	Kidney diseases; preexisting skin diseases.
Listed as carcinogen or potential carcinogen	Not listed by OSHA, the International Agency for Research on Cancer.

4. FIRST AID

Inhalation	Remove from area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.
Eye contact	Hold eye open and flush slowly and gently with plenty of water for several minutes. Remove any contact lenses, and continue flushing for several more minutes. Seek medical attention if irritation develops and persists.
Skin contact	Wash affected areas with plenty of water, and soap if available, for several minutes. Remove and clean contaminated clothing and shoes. Seek medical attention if irritation develops and persists.
Ingestion	Give 3-4 glasses of water, but DO NOT induce vomiting. If vomiting occurs, give fluids again. Get medical attention to determine whether vomiting or evacuation of stomach is necessary. Do not give anything by mouth to an unconscious or convulsing person.
Note to physician	Gentamicin is an aminoglycoside which causes ototoxicity and nephrotoxicity by systemic administration.

5. FIRE FIGHTING MEASURES

Flash Point and Method	N/A
General hazard	Does not present any special hazards.
Extinguishing media	Use media suitable for the material that is burning.
Extinguishing media to avoid	None
Special firefighting instructions	Move containers from area if it can be done without risk.
Firefighting equipment	As in any fire, wear NIOSH approved, positive-pressure, self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear appropriate protective equipment (see Section 8). Avoid skin and eye contact. Wash thoroughly after handling.
Environmental precautions	None.

Clean-up methods	Absorb in vermiculite, kitty litter, sawdust. Sweep up and place in a compatible container for disposal.

7. HANDLING AND STORAGE

Handling	Wear appropriate protective equipment (see Section 8). Do not pipette by mouth. Avoid skin and eye contact. Wash thoroughly after handling.
Storage	Frozen

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls	General ventilation should be adequate for laboratory uses of this product.
Personal Protection	
Respirator	In operations where mists are generated, use a NIOSH approved respirator that has been selected by an industrial hygienist or other technically qualified person for the specific work conditions. If respirators are used, OSHA requires compliance with its respiratory protection program (29 CFR 1910.134).
Eye Protection	Wear safety glasses or vented safety goggles.
Gloves	Wear rubber gloves.
Clothing	Laboratory coat.
Other	Eye wash, emergency shower.
Hygiene practices	Wash thoroughly after handling, and before eating, drinking, smoking, or using the toilet.
Exposure controls	None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Color	Pale yellow
Odor	None
Properties	pH: N/D Relative density (20° C): N/D Solidification point: 0 °C Water solubility: Soluble

10. STABILITY AND REACTIVITY

Reactivity	Stable
Materials to avoid	Strong oxidizing agents.
Conditions to avoid	None known

Hazardous decomposition products	Carbon dioxide, carbon monoxide, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

No information available for product.

For Gentamicin
Oral LD_{50} (rat): 6,600 mg/kg
Oral LD_{50} (mouse): 10,000 mg/kg

Chronic Toxicity

No information available for product.

For Gentamicin
Topical applications can cause ototoxicity or skin sensitization. Systemic administration can cause nephrotoxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity No information available.

Persistence/degradability No information available.

13. DISPOSAL CONSIDERATIONS

RCRA hazardous waste code Not regulated

Special Instructions Observe all federal, state and local laws and regulations.

14. TRANSPORT INFORMATION

DOT hazard class Not regulated
TDG hazard class Not regulated

15. REGULATORY INFORMATION

OSHA regulatory status (29 CFR 1910.1200) Hazardous

CERCLA reportable quantity (40 CFR 117, 302)

Name	Reportable quantity (lbs)
None	N/A

SARA extremely hazardous substances (40 CFR 355)

Name	Threshold planning quantity (lbs)	Reportable quantity (lbs)
None	N/A	N/A

SARA hazard categories (40 CFR 370) Immediate (Acute)
Delayed (Chronic)

SARA toxic chemicals (40 CFR 372)	Name	CAS Number	Percentage
	None	N/A	N/A

Inventory Status

Chemicals in this product, other than water, are not listed on the US TSCA Chemical Substances Inventory or the Canadian Domestic Substances List. All are listed on the European EINECS.

Toxic Substance Control Act

This product can only be used for TSCA excluded or exempt purposes, such as FDA or R&D.

Controlled Products Regulations

This product has been classified according to the hazard criteria of the Canadian Controlled Products Regulations, Section 33, and the MSDS contains all required information.

WHMIS classification

D2B

EC label for product

Xi; R43

State regulations

N/A

16. OTHER INFORMATION

Risk phrases

R68/21/22: Harmful: Possible risk of irreversible effects in contact with skin and if swallowed.
R38: Irritating to skin
R43:.May cause sensitization by skin contact.

Abbreviations

C - Ceiling limit
EINECS – European Inventory of Existing Chemical Substances
ELINCS – European List of Notified Chemical Substances
ERG – Emergency Response Guidebook
LC_{50} - The concentration of a substance in air that will kill 50% of test animals within a certain exposure period.
LD_{50} - The dose that causes death in 50% of test animals.
N/A - Not applicable
N/D - Not determined
N/E - Not established
N/K - Not known
PIN – Product Identification Number
RQ - Reportable Quantity
TPQ - Threshold Planning Quantity
WHMIS – Workplace Hazardous Materials Information System

Preparation information

Date prepared April 8, 2003
Replaces New

MSDS number W-02032

Disclaimer

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Cambrex Bio Science Walkersville, Inc. The data on this sheet relate only to the specific materials designated herein. Cambrex Bio Science Walkersville, Inc. assumes no legal responsibility for the use or reliance upon these data.

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

-3850

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: G5767
NAME: D-(+)-GLUCOSE ANHYDROUS ACS REAGENT
SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 50-99-7
MF: C6H12O6
EC NO: 200-075-1
SYNONYMS
ANHYDROUS DEXTROSE * CARTOSE * CERELOSE * CORN SUGAR * DEXTROPUR * DEXTROSE * DEXTROSE, ANHYDROUS * DEXTROSOL * GLUCOLIN * GLUCOSE * GLUCOSE, ANHYDROUS * D-GLUCOSE, ANHYDROUS * GLUCOSE LIQUID * GRAPE SUGAR * SIRUP * SUGAR, GRAPE *
SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
DATA NOT AVAILABLE
SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.
SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -
EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
CHEMICAL SAFETY GOGGLES.
USE PROTECTIVE CLOTHING, GLOVES AND MASK.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -
REFER TO SECTION 8.
SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
CHEMICAL SAFETY GOGGLES.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR IN NONVENTILATED AREAS AND/OR FOR EXPOSURE ABOVE THE ACGIH TLV.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
WHITE POWDER

PHYSICAL PROPERTIES
MELTING POINT: 153 C TO 156 C

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
MAY CAUSE IRRITATION.

RTECS #: LZ6600000
D-GLUCOSE

TOXICITY DATA

ORL-RAT LD50:25800 MG/KG	85AIAL -,39,73
IPR-MUS LD50:18 GM/KG	PSEBAA 35,98,36
IVN-MUS LD50:9 GM/KG	ARZNAD 18,666,68

TARGET ORGAN DATA
MATERNAL EFFECTS (OTHER EFFECTS ON FEMALE)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON EMBRYO OR FETUS (OTHER EFFECTS TO EMBYRO OR FETUS)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CRANIOFACIAL)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (HEPATOBILIARY SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (UROGENITAL SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (OTHER DEVELOPMENTAL ABNORMALITIES)
EFFECTS ON NEWBORN (BIOCHEMICAL AND METABOLIC)
EFFECTS ON NEWBORN (BEHAVIORAL)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE IN WATER AND DILUTE TO A 5% SOLUTION. CHECK THE PH AND ADJUST IT TO 7 IF NECESSARY. POUR THE SOLUTION DOWN THE DRAIN WITH RUNNING WATER AND CONTINUE TO FLUSH THE DRAIN SYSTEM FOR 10 MINUTES, PROVIDED THAT RULES AT YOUR PLACE OF EMPLOYMENT OR LOCAL, STATE AND FEDERAL GUIDELINES ALLOW YOU TO DO SO. IF YOU ARE UNABLE TO FLUSH THE SOLUTION DOWN THE DRAIN OR IN DOUBT ABOUT THE SUITABILITY OF THE METHOD USE A LICENSED WASTE DISPOSAL COMPANY.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
NOHS 1974: HZD 81836; NIS 117; TNF 16738; NOS 90; TNE 136870
NOES 1983: HZD 81836; NIS 86; TNF 11017; NOS 102; TNE 363666; TFE 186490
EPA GENETOX PROGRAM 1988, NEGATIVE: SPERM MORPHOLOGY-MOUSE
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: MAMMALIAN MICRONUCLEUS
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES

SECTION 16.- - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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CAMBREX

DEAR CUSTOMER:

Malou Villegas
T – 818-503-6852
F – 818-503-6857

Re: Material Safety Data Sheet Request

This is to acknowledge your request for Material Safety Data Sheet on the following Cambrex product.

30-957J Guinea Pig Red Blood Cells

There are no hazardous or toxic substances found in this product that would require us to distribute a Material Safety Data Sheet according to the Federal OSHA requirements.

If we may be of further assistance, please do not hesitate to contact us.

Sincerely,

Dawn M Hafle

Customer Service Supervisor

IRVINE SCIENTIFIC
MATERIAL SAFETY DATA SHEET

Irvine Scientific supplies Material Safety Data Sheets for products you have purchased. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200, as well as several state and local laws and regulations, have been considered in their preparation.

All information is offered gratuitously and in good faith as accurate, but is furnished without guaranty. No claim is made that the information is all-inclusive, and it should be used only as a guide. Irvine Scientific shall not be held liable for any damage resulting from handling or from contact with the product.

SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	**9319**
Description:	**HEPES Buffer Solution 1 M**
Formulation:	238.3 g/ml of water

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:		Clear colorless solution.	
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

SECTION VI - REACTIVITY DATA

Stability: Stable.
Conditions or Materials to Avoid: None that are established or known.
Hazardous Polymerization: To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing. Wash spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection: Safety glasses with side shields and gloves are recommended.
Storage: Store as recommended on label in a dry place. There are no special requirements

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
0 / 3 / 0 / ACID	Health Hazard 3 Fire Hazard 0 Reactivity 0	See Section 15

Section 1. Chemical Product and Company Identification

Page Number: 1

Common Name/ Trade Name	**Hydrochloric acid**	Code	H3290
		CAS#	Not applicable.
Manufacturer	SPECTRUM CHEMICAL MFG. CORP. 14422 SOUTH SAN PEDRO STREET GARDENA, CALIFORNIA 90248	RTECS	MW4025000
		TSCA	On the TSCA list.
Commercial Name(s)	Not available.	CI#	Not applicable.
Synonym	Not available.		
Chemical Name	Not applicable.		
Chemical Family	Inorganic acid. (Acid.)		
Chemical Formula	Not applicable.		
Supplier	SPECTRUM QUALITY PRODUCTS, INC. 14422 SOUTH SAN PEDRO STREET GARDENA, CA 90248		

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300
Emergency phone: (310)516-8000

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
Hydrogen chloride	7647-01-0	7.5		5	37
Water	7732-18-5				63

Toxicological Data on Ingredients **Hydrogen chloride:**
VAPOR (LC50): Acute: 3124 ppm (Rat) (1 hour(s)).

Section 3. Hazards Identification

Potential Acute Health Effects

Extremely dangerous in case of ingestion, of inhalation. Very dangerous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant). Not dangerous in case of skin contact (non-sensitizer for skin). Corrosive to eyes and skin. Corrosive to skin and eyes on contact. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Can be fatal if inhaled or ingested. This product may irritate eyes and skin upon contact. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

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Potential Chronic Health Effects	Not dangerous in case of skin contact (non-corrosive for skin, non-irritant for skin, non-sensitizer for skin, non-permeator by skin), of eye contact (non-irritant), of ingestion, of inhalation. **CARCINOGENIC EFFECTS**: Not available. **MUTAGENIC EFFECTS**: Not available. **TERATOGENIC EFFECTS**: Not available. The substance is toxic to lungs, mucous membranes. Toxicity of the product to the reproductive system: Not available. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. COLD water may be used. DO NOT use an eye ointment. Seek medical attention.
Skin Contact	If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: **Neutralize exposed skin with a dilute solution of sodium carbonate.** Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. COLD water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	DO NOT induce vomiting. Have conscious person drink several glasses of water or milk. Seek immediate medical attention.
Serious Ingestion	DO NOT induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not applicable.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No specific information is available in our database regarding the product's risks of explosion in the presence of various materials.
Fire Fighting Media and Instructions	Non-flammable.

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Special Remarks on Fire Hazards	Non combustible.
Special Remarks on Explosion Hazards	No additional remark.

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert DRY material and place in an appropriate waste disposal container. If necessary: **Neutralize the residue with a dilute solution of sodium carbonate.**
Large Spill	Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT get water inside container. DO NOT touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of sodium carbonate.**

Section 7. Handling and Storage

Precautions	Keep locked up. Keep container dry. DO NOT ingest. Do not breathe gas, fumes, vapor or spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles as metals, alkalis. May corrode metallic surfaces. Store in a metallic or coated fibreboard drum using a strong polyethylene inner package.
Storage	May corrode metallic surfaces. Store in a metallic or coated fibreboard drum using a strong polyethylene inner package. Corrosive materials should be stored in a separate safety storage cabinet or room.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engeneering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Splash goggles. Full suit. Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Gloves (impervious). Boots. Wear appropriate respirator when ventilation is inadequate.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 5 CEIL: 5 (ppm) from OSHA/NIOSH TWA: 7.5 CEIL: 7 (mg/m^3) from OSHA Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	Odor	Pungent. (Strong.)
Molecular Weight	Not applicable.	Taste	Not available.
pH (1% soln/water)	1	Color	Colorless to light yellow.
Boiling Point	100°C (212°F)		
Melting Point	Not available.		
Critical Temperature	Not available.		
Specific Gravity	1.19 (Water = 1)		
Vapor Pressure	17.535 mm of Hg (@ 20°C) based on data for: Water		

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Continued on Next Page

Vapor Density	0.62 (Air = 1) based on data for: Water
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water, methanol.
Solubility	Soluble in cold water, hot water, methanol.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	No additional remark.
Incompatibility with various substances	Highly reactive with metals, alkalis.
Corrosivity	Extremely corrosive in presence of steel, of aluminum, of copper. Non-corrosive in presence of glass.
Special Remarks on Reactivity	Reacts violently with water especially when water is added to the product.
Special Remarks on Corrosivity	Highly corrosive. Incompatible with copper alloys.
Polymerization	No.

Section 11. Toxicological Information

Routes of Entry	Ingestion. Skin contact. Inhalation.
Toxicity to Animals	**WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE.** Acute toxicity of the vapor (LC50): 1562 ppm (Rat).
Chronic Effects on Humans	The substance is toxic to lungs, mucous membranes. Toxicity of the product to the reproductive system: Not available.
Other Toxic Effects on Humans	Extremely dangerous in case of ingestion, of inhalation. Very dangerous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant). Not dangerous in case of skin contact (non-sensitizer for skin).
Special Remarks on Toxicity to Animals	No additional remark.
Special Remarks on Chronic Effects on Humans	No additional remark.
Special Remarks on other Toxic Effects on Humans	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Not applicable.
Toxicity of the Products of Biodegradation	The products of degradation are as toxic as the original product.
Special Remarks on the Products of Biodegradation	No additional remark.

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Continued on Next Page

Section 13. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	DOT CLASS 8: Corrosive liquid.
Identification	Hydrochloric acid, solution (Hydrogen chloride) UN1789 II
Special Provisions for Transport	No additional remark.
DOT (Pictograms)	

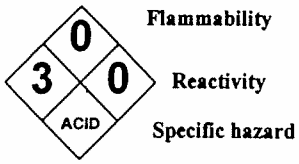
Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations		The following product(s) is (are) listed by CERCLA: **Hydrogen chloride** The following product(s) is (are) listed on SARA 312: **Hydrogen chloride** The following product(s) is (are) listed on SARA 313: **Hydrogen chloride** The following product(s) is (are) listed by the State of Massachusetts: **Hydrogen chloride** The following product(s) is (are) listed by the State of Pennsylvania: **Hydrogen chloride** The following product(s) is (are) listed on TSCA: **Hydrogen chloride, Water**
California Proposition 65 Warnings		WARNING: This product contains a chemical known to the State of California to cause cancer. Chemical ingredient(s) requiring this warning: NONE WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Chemical ingredient(s) requiring this warning: NONE
Other Regulations		OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
Other Classifications	WHMIS (Canada)	WHMIS CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). WHMIS CLASS D-2A: Material causing other toxic effects (VERY TOXIC). WHMIS CLASS E: Corrosive liquid.
	DSCL (EEC)	R23- Toxic by inhalation. R28- Very toxic if swallowed. R35- Causes severe burns. R42- May cause sensitization by inhalation. R36/37/38- Irritating to eyes, respiratory system and skin.

HMIS (U.S.A.)

Health Hazard	3
Fire Hazard	0
Reactivity	0
Personal Protection	j

National Fire Protection Association (U.S.A.)



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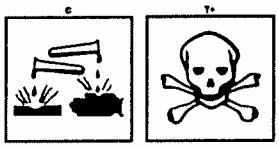
WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves (impervious).

Full suit.

Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16. Other Information

Catalog Number(s)	**H1035, H1037, H1038, H1039, H1040, H1041, HY104, HY106**
References	-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987. -SAX, N.I. Dangerous Properties of Indutrial Materials. Toronto, Van Nostrand Reinold, 6e ed. 1984. -The Sigma-Aldrich Library of Chemical Safety Data, Edition II. -Guide de la loi et du règlement sur le transport des marchandises dangeureuses au canada. Centre de conformité internatinal Ltée. 1986.
Other Special Considerations	No additional remark.

Validated by E. Brull on 12/17/96.	**Verified by E. Brull.** **Printed 12/18/96.**

Emergency phone: (310)516-8000

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Continued on Next Page

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

IRVINE SCIENTIFIC
MATERIAL SAFETY DATA SHEET

Irvine Scientific supplies Material Safety Data Sheets for products you have purchased. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200, as well as several state and local laws and regulations, have been considered in their preparation.

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SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	**4023**
Description:	**Horse Serum**
Formulation:	NA

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:	Straw colored to reddish brown.		
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.	
Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

SECTION VI - REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing. Rinse spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection:	Wear suitable protective clothing, safety glasses with side shields and rubber gloves.
Storage:	Store as recommended on label. There are no special requirements.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

remel

MATERIAL SAFETY DATA SHEET

SECTION I-IDENTIFICATION

Product Name: **Animal Blood, Serum and Plasma**
Cat. #: Various; see end list.
Formula: Not applicable.

SECTION II-HAZARDOUS INGREDIENTS

None known

SECTION III-PHYSICAL DATA

Boiling Point:	Not Applicable.
Vapor Pressure:	Not Applicable.
Vapor Density (air=1):	Not Applicable
Water Solubility:	Soluble
Specific Gravity:	1.042-1.010
Appearance:	Reddish brown to amber.
Melting Point:	Not Applicable
% Volatile by Volume:	0 (21°C)
Evaporation Rate (ether=1):	No Data Available.

SECTION IV-FIRE AND EXPLOSION DATA

Flash Point:	Not applicable.
Explosive Limits:	Not applicable
Extinguishing Media:	Any needed for surrounding fire.
Special Precautions:	None.

Unusual Fire and Explosive Data: None known.

SECTION V-HEALTH HAZARD AND EMERGENCY

Exposure Limits:
OSHA PEL: No Data.
ACGIH TOV: No Data.
ORAL RAT LD_{50}: 100mg/kg No Data.
Acute Health Effects: Maybe harmful if swallowed; high protein reaction in large amounts. May be harmful if injected: Animal born bacterial and viral diseases. Immediately consult a physician.
Target Organ Effects: None known.

SECTION VI-REACTIVITY

Stability: Stable.
Incompatibility: None.
Hazardous Polymerization: Will not occur.
Hazardous Decomposition Products: None.
Conditions to Avoid: If product is cloudy or hemolyzed, autoclave and dispose as normal solid waste.

SECTION VII-SPILL AND DISPOSAL

Spill Procedures: Wear gloves, boots, and NIOSH/MSHA approved respirator. Contain spill. Absorb or scoop up and place in a bio-hazard bag for autoclaving.
Disposal Procedures: Ensure compliance with all local, state, and federal regulations or contact a licensed disposal agency.

SECTION VIII-PROTECTION DATA

Eyes: Chemical safety goggles.
Gloves: Chemical resistant gloves.
Respiratory: None under normal conditions.
Ventilation: None under normal conditions.

SECTION IX-HANDLING AND STORAGE

Store at: See label requirements on product.

SECTION X-MISCELLANEOUS DATA

This information is believed to be correct; however, no warranties are made with respect to this information, and REMEL assumes no liability resulting from use. Make independent determinations of the suitability and completeness of information from all sources, to assure proper use and disposal of this product and personnel safety and health.

Catalog number(s):

54004	54080
54008	54084
54012	54088
54013	54092
54016	54096
54020	54100
54024	54104
54044	54124
54048	54128
54052	54132
54056	

MSDS54004 Revised 10/13/00

010952

remel

Remel Inc.
12076 Santa Fe Drive
Lenexa, Kansas 66215
www.remel.com

913-888-0939
800-255-6730
913-888-5884 fax

Certificate of Quality
05/12/04

PRODUCT: 55075 LOT: 301168 EXPIRATION: 2004/12/21
PRODUCT DESCRIPTION: HORSE SERUM 100ml
This product has been manufactured, processed, and packaged in accordance with Quality Systems Regulation, 21 CFR Part 820. Representative samples were tested per Remel Quality Control specifications and were found to meet performance criteria for this product.

RESULTS

This product has been tested for microbial content and aesthetic value only. Functional testing should be performed by the user to assure efficacy of the product.

Microbial Load:
ACCEPTABLE

Appearance: MEDIUM AMBER, CLEAR LIQUID

pH: N/A

Unit: BOTTLE
Volume: 100ml
Storage: -15-0C
Reference IFU:

Quality Control Supervisor

remel

FACSIMILE TRANSMITTAL

Date: 2004/05/12

To: Kulwant Eder
Virology

RE: QA + Mods

Fax: 818 5036857

From: Julie Yount-Quality Systems

Company: Remel Inc.

Telephone: 800-255-6730, Ext. 4118
Direct Line: 913-895-4118
E-mail: JYount@Remel.com
Fax No. 913-895-4190 or 866-408-5652

Total number Pages (Including cover page): 3

[ ] Urgent [X] For your review [ ] Please reply

MESSAGE:

Hi,

I wanted to let you know that the following mods does cover the SS075, however, it is getting looked at to be revised to include this product. Please let me know if you have any questions.

Thanks,
Julie Yount

Please call the above phone number if you don't receive all pages faxed to you

12076 Santa Fe Drive, Lenexa, KS 66215 • 913-888-0939 • 800-255-6730 Fax 913-888-5884

Quality Microbiology Products and Service

IRVINE SCIENTIFIC
MATERIAL SAFETY DATA SHEET

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SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	9317
Description:	L-Glutamine Solution, 200 mM
Formulation:	29.2 mg/ml

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:		Clear, colorless.	
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

SECTION VI - REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

IRVINE SCIENTIFIC
MATERIAL SAFETY DATA SHEET

Irvine Scientific supplies Material Safety Data Sheets for products you have purchased. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200, as well as several state and local laws and regulations, have been considered in their preparation. All information is offered gratuitously and in good faith as accurate, but is furnished without guaranty. No claim is made that the information is all-inclusive, and it should be used only as a guide. Irvine Scientific shall not be held liable for any damage resulting from handling or from contact with the product.

SECTION I – PRODUCT IDENTIFICATION

Catalog Number: **9126**
Description: **MEM 1X Earle's Salts**
Formulation: see current catalog

SECTION II – HAZARDOUS INGREDIENTS

Not applicable – No known hazardous components.

SECTION III – PHYSICAL DATA

Appearance:	Clear, red solution		
Boiling Point:	NA	Solubility H_2O:	NA
Vapor Pressure:	NA	Specific Gravity:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Nonflammable.

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V – HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

SECTION VI – REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

SECTION VII – SPILL OR LEAK PROCEDURES
Wear suitable protective clothing. Wash spill area with water.

SECTION VIII – HANDLING AND STORAGE PRECAUTIONS
Eye/Skin Protection: Safety glasses with side shields and gloves are recommended.
Storage: Store as recommended on label. There are no special requirements.

SECTION IX – SPECIAL PRECAUTIONS AND COMMENTS
Not applicable.

SPECTRUM®

ISO 9002 CERTIFIED

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
0 / 3 / 1	Health Hazard 3 Fire Hazard 0 Reactivity 2	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Sodium hydroxide**	Catalog Number(s).	S1301, S1302, S1303, S1305, S1308, SO170
		CAS#	1310-73-2
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	WB4900000
		TSCA	TSCA 8(b) inventory: Sodium hydroxide
Commercial Name(s)	Not available.	CI#	Not available.
Synonym	Caustic Soda	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Name	Sodium Hydroxide		
Chemical Family	Not available.		
Chemical Formula	NaOH		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Sodium hydroxide	1310-73-2	2		2	100

Toxicological Data on Ingredients

Sodium hydroxide
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects

Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degrees of

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	sodium hydroxide + zinc metal dust causes ignition of the latter. Under proper conditions of temperature, pressure and state of division, it can ignite or react violently with acetaldehyde, ally alcohol, allyl chloride, benzene-1,4-diol, chlorine trifluoride, 1,2 dichlorethylene, nitroethane, nitromethane, nitroparaffins, nitropropane, cinnamaldehyde, 2,2-dichloro-3,3-dimethylbutane. Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials. Phosphorous boiled with NaOH yields mixed phosphines which may ignite spontanously in air. sodium hydroxide and cinnamaldehyde + heat may cause ignition.
Special Remarks on Explosion Hazards	Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate. Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aquesous sodium hydroxide, under vacuum distillation, residue darkened and exploded. Sodium Hydroxde + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions. Dry mixtures of sodium hydroxide and sodium tetrahydroborate liberate hydrogen explosively at 230-270 deg. C. Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: **Neutralize the residue with a dilute solution of acetic acid.**
Large Spill	Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of acetic acid.** Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep locked up.. Keep container dry. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, metals, acids, alkalis, moisture.
Storage	Hygroscopic. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	STEL: 2 (mg/m^3) from ACGIH (TLV) [United States] TWA: 2 CEIL: 2 (mg/m^3) from OSHA (PEL) [United States] CEIL: 2 (mg/m^3) from NIOSH Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	Odor	Odorless.
Molecular Weight	40 g/mole	Taste	Not available.
pH (1% soln/water)	13.5 [Basic.]	Color	White.

Boiling Point	1388°C (2530.4°F)
Melting Point	323°C (613.4°F)
Critical Temperature	Not available.
Specific Gravity	2.13 (Water = 1)
Vapor Pressure	Not applicable.
Vapor Density	Not available.
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water.
Solubility	Easily soluble in cold water.

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Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials, moisture, moist air
Incompatibility with various substances	Highly reactive with metals, moisture. Reactive with oxidizing agents, reducing agents, acids, alkalis.
Corrosivity	Not available.
Special Remarks on Reactivity	Hygroscopic. Much heat is evolved when solid material is dissolved in water. Therefore cold water and caution must be used for this process. Sodium hydroxide solution and octanol + diborane during a work-up of a reaction mixture of oxime and diborane in tetrahyrofuran is very exothermic, a mild explosion being noted on one occassion. Reactive with water, acids (mineral, non-oxidizing, e.g. hydrochloric, hydrofluoric acid, muriatic acid, phosphoric), acids (mineral, oxidizing e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, foraldehyde), carbamates (e.g. carbanolate, carbofuran), esters (e.g. butyl acetate, ethyl acetate, propyl formate), halogenated organics (dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), isocyanates (e.g. methyl isocyanate), ketones (acetone, acetophenone, MEK, MIBK), acid chlorides, strong bases, strong oxidizing agents, strong reducing agents, flammable liquids, powdered metals and metals (i.e aluminum, tin, zinc, hafnium, raney nickel), metals (alkali and alkaline e.g. cesium, potassium, sodium), metal compounds (toxic e.g. berylium, lead acetate, nickel carbonyl, tetraethyl lead), mitrides (e.g. potassium nitride, sodium nitride), nitriles (e.g. acetonitrile, methyl cyanide), nitro compounds (organic e.g. nitrobenzene, nitromethane), acetic anhydride, chlorohydrin, chlorosulfonic acid, ethylene cyanohydrin, glyoxal, hydrosulfuric acid, oleum, propiolactone, acylonitrile, phorosous pentoxide, chloroethanol, chloroform-methanol, tetrahydroborate, cyanogen azide, 1,2,4,5 tetrachlorobenzene, cinnamaldehyde. Reacts with formaldehyde hydroxide to yield formic acid, and hydrogen.
Special Remarks on Corrosivity	Very caustic to aluminum and other metals in presence of moisture.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells.
Other Toxic Effects on Humans	Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (corrosive), of ingestion, .
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May affect genetic material. Investigation as a mutagen (cytogenetic analysis)
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May be harmful if absorbed through skin. Causes severe skin irritation and burns. May cause deep penetrating ulcers of the skin. Eyes: Causes severe eye irritation and burns. May cause chemical conjunctivitis and corneal damage. Inhalation: Harmful if inhaled. Causes severe irritation of the respiratory tract and mucous membranes with coughing, burns, breathing difficulty, and possible coma. Irritation may lead the chemical pneumonitis and pulmonary edema. Causes chemical burns to the respiratory tract and mucous membranes. Ingestion: May be fatal if swallowed. May cause severe and permanent damage to the digestive tract. Causes severe gastrointestinal tract irritation and burns. May cause perforation of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause corrosion and permanent destruction of the esophagus and digestive tract.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	Class 8: Corrosive material
Identification	: Sodium hydroxide, solid UNNA: 1823 PG: II
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	Illinois toxic substances disclosure to employee act: Sodium hydroxide Illinois chemical safety act: Sodium hydroxide New York release reporting list: Sodium hydroxide Rhode Island RTK hazardous substances: Sodium hydroxide Pennsylvania RTK: Sodium hydroxide Minnesota: Sodium hydroxide Massachusetts RTK: Sodium hydroxide New Jersey: Sodium hydroxide Louisiana spill reporting: Sodium hydroxide California Director's List of Hazardous Substances: Sodium hydroxide TSCA 8(b) inventory: Sodium hydroxide CERCLA: Hazardous substances.: Sodium hydroxide: 1000 lbs. (453.6 kg)
California Proposition 65 Warnings	
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications	WHMIS (Canada): CLASS E: Corrosive solid. DSCL (EEC): R35- Causes severe burns. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28- After contact with skin, wash immediately with plenty of water S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S38- In case of insufficient ventilation, wear

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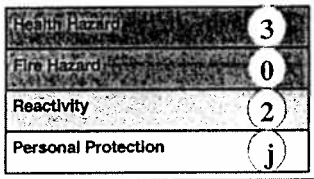
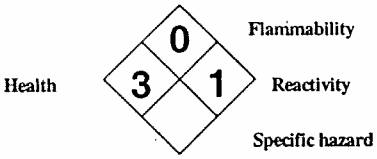
Continued on Next Page

suitable respiratory equipment.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.)

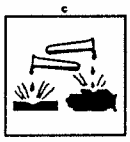


National Fire Protection Association (U.S.A.)

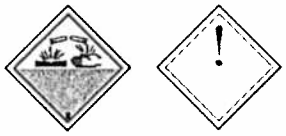


WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)



ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Synthetic apron.

Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16. Other Information

MSDS Code	S4100
References	Not available.
Other Special Considerations	Not available.

Validated by Sonia Owen on 6/5/2001.	Verified by Sonia Owen. Printed 7/6/2001.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

January 14, 2004

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: P3032
NAME: PENICILLIN-G SODIUM CELL CULTURE TESTED
SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 69-57-8
MF: C16H17N2NAO4S
EC NO: 200-710-2
SYNONYMS
AMERICAN PENICILLIN * BENZYLPENICILLINIC ACID SODIUM SALT * BENZYLPENICILLIN SODIUM * BENZYLPENICILLIN SODIUM SALT * CRYSTAPEN * MYCOFARM * NOVOCILLIN * PEN-A-BRASIVE * PENICILLIN-G, MONOSODIUM SALT * PENICILLIN G, SODIUM * PENICILLIN G, SODIUM SALT * PENILARYN * SODIUM BENZYLPENICILLIN * SODIUM BENZYLPENICILLIN G * SODIUM BENZYLPENICILLINATE * SODIUM PENICILLIN * SODIUM PENICILLIN G * SODIUM PENICILLIN II * VETICILLIN *
SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
HARMFUL
MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
WEAR SUITABLE PROTECTIVE CLOTHING.
SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -
IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.
IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.
SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -
EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -
REFER TO SECTION 8.
SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT

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GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
MECHANICAL EXHAUST REQUIRED.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
SOLID.

PHYSICAL PROPERTIES
SOLUBILITY:
WATER -SOLUBLE

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

STABILITY
STABLE.

INCOMPATIBILITIES
ACIDS
HEAVY METAL SALTS
OXIDIZING AGENTS
GLYCEROL
ALCOHOL

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES
SULFUR OXIDES

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS.
EXPOSURE CAN CAUSE:
DERMATITIS
GASTROINTESTINAL DISTURBANCES

RTECS #: XH9800000
4-THIA-1-AZABICYCLO(3.2.0)HEPTANE-2-CARBOXYLIC ACID,
3,3-DIMETHYL-7-OXO-6-(2-PHENYL
ACETAMIDO)-, MONOSODIUM SALT

TOXICITY DATA

ORL-RAT LD50:6916 MG/KG	AMPMAR 39,259,78
IVN-RAT LD50:3020 MG/KG	ARZNAD 9,31,59
PAR-RAT LD50:2900 UG/KG	AACHAX -,863,65
ORL-MUS LD50:>4 GM/KG	ABANAE 3,540,55/56
IPR-MUS LD50:3314 MG/KG	ABANAE 3,540,55/56
SCU-MUS LD50:4750 MG/KG	NYKZAU 55,23,59
IVN-MUS LD50:1500 MG/KG	ARZNAD 9,31,59
IMS-MUS LD50:2800 MG/KG	ARZNAD 9,31,59
ICE-MUS LD50:3800 UG/KG	NYKZAU 55,23,59

TARGET ORGAN DATA
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
GASTROINTESTINAL (OTHER CHANGES)
BLOOD (LYMPHOMA INCLUDING HODGKIN'S DISEASE)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
EFFECTS ON NEWBORN (GROWTH STATISTICS)
NUTRITIONAL AND GROSS METABOLIC (OTHER CHANGES)
TUMORIGENIC (EQUIVOCAL TUMORIGENIC AGENT BY RTECS CRITERIA)
TUMORIGENIC (TUMORS AT SITE OF APPLICATION)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

EUROPEAN INFORMATION

HARMFUL

R 42/43

MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

S 36

WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

NOES 1983: HZD X4380; NIS 1; TNF 137; NOS 5; TNE 7315; TFE 5985

EPA GENETOX PROGRAM 1988, INCONCLUSIVE: D MELANOGASTER SEX-LINKED LETHAL

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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SAFETY DATA SHEET
PMN

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: PMN
Application: Isolation of human polymorphonuclear cells using centrifugation techniques
Supplier: Axis-Shield PoC AS
Marstrandgata 6
P.O.Box 6863 Rodeløkka
N-0504 OSLO, Norway
Telephone: +47 22 04 20 00
Telefax: +47 22 04 20 01

2. COMPOSITION, INFORMATION ON INGREDIENTS

Composition:

Main ingredients:	CAS No.:	Content:	Hazard classification:
Sodium diatrizoate	737-31-5	13.8%(w/v)	None
Dextran 500	9004-54-0	8.0%(w/v)	None

3. HAZARDS IDENTIFICATION

Emergency overview: Liquid solution. No hazard if spilled

Health Hazard: .Non-toxic

4. FIRST-AID MEASURES

General: Miscible with water.
Eyes: Flush eyes with water. If irritation occurs, seak medical advice.
Skin contact: Wash with water.
Ingestion: Wash mouth thoroughly with water and drink water. If substance has been swallowed, drink large quantities of water.
Inhalation: Not applicable.

5. FIRE-FIGHTING MEASURES

Extinguishing media: Use extinguishing media appropriate for surrounding fire.
Flammable properties: Not flammable. This product does not present any fire or explosion hazard.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear gloves, other protection is not necessary
Cleanup procedures: Clean up, contaminated area should be washed with soap and water.

7. HANDLING AND STORAGE

Handling precautions: Should be handled as an unknown chemical.
Storage precautions: Store in original container according to temperature stated on container and in package insert.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Ventilation: No particular ventilation requirements.
Protective gloves: Hand protection is recommended.
Eye protection: Eye protection not normally required.
Protective clothing: Protective clothing is not necessary.

9.	PHYSICAL AND CHEMICAL PROPERTIES
Apperance:	Liquid solution
Colour:	Colourless
Solubility:	Readily miscible with water.
Speslfic gravity:	1.113 g/ml
pH-valuo:	6.8 ± 0.5

10.	STABILITY AND REACTIVITY
Stability:	Stablo and not reactive

11.	TOXICOLOGICAL INFORMATION
Acuto Effects:	None
Skin Effects:	None
Eye Effects:	None

12.	ECOLOGICAL INFORMATION
Summary:	This product is readily miscible with water and rated non- toxic. It has no potential for bioaccumulation.

13.	DISPOSAL CONSIDERATION
General Information:	Disposal should be made in accordance with existing disposal practices employed for biological material

14.	TRANSPORT INFORMATION
General Information:	Transportation of the product is not regulated by ADR. Fragile containers, handle with care. Protect from high temperatures.

15.	REGULATORY INFORMATION
	EU regulations: Not regulated under the European Community Directive 93/21/EEC.

16.	OTHER INFORMATION
Revision Date:	October 2001
Replaces:	January 1992

This Safety Data Sheet complies to the European Community Directive 93/112/EC amended 91/155/EEC.

Noto: The above-mentioned data are based on our present knowledge of this product

January 14, 2004

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: P1004
NAME: POLYMYXIN B SULFATE

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 1405-20-5
EC NO: 215-774-7

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
HARMFUL
HARMFUL IF SWALLOWED.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.
IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.
IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -
EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
WEAR PROTECTIVE EQUIPMENT.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
MECHANICAL EXHAUST REQUIRED.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -
APPEARANCE AND ODOR
SOLID.
PHYSICAL PROPERTIES
SOLUBILITY:
WATER -SOLUBLE

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -
STABILITY
STABLE.
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:

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CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES
SULFUR OXIDES
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
EXPOSURE CAN CAUSE:
STOMACH PAINS, VOMITING, DIARRHEA.
RTECS #: TR1150000
POLYMYXIN B SULFATE
TOXICITY DATA

ORL-MUS LD50:790 MG(BASE)/KG	ABANAE 7,41,59/60
IPR-MUS LD50:20500 UG(BASE)/KG	ABANAE 7,41,59/60
SCU-MUS LD50:59500 UG(BASE)/KG	ABANAE 7,41,59/60
IVN-MUS LD50:5400 UG(BASE)/KG	ABANAE 7,41,59/60
SCU-GPG LD50:58 MG/KG	NKRZAZ 16,105,68

TARGET ORGAN DATA
BEHAVIORAL (COMA)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

EUROPEAN INFORMATION
HARMFUL
R 22
HARMFUL IF SWALLOWED.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.
REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
NOHS 1974: HZD 81938; NIS 4; TNF 152; NOS 6; TNE 967
NOES 1983: HZD X9499; NIS 1; TNF 383; NOS 1; TNE 1149
NOES 1983: HZD 81938; NIS 19; TNF 1842; NOS 18; TNE 173376; TFE 145041

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.
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IrvineScientific

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MATERIAL SAFETY DATA SHEET

Irvine Scientific supplies Material Safety Data Sheets for products you have purchased. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200, as well as several state and local laws and regulations, have been considered in their preparation.

All information is offered gratuitously and in good faith as accurate, but is furnished without guaranty. No claim is made that the information is all-inclusive, and it should be used only as a guide. Irvine Scientific shall not be held liable for any damage resulting from handling or from contact with the product.

SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	9236
Description:	**PBS 1X - Dulbecco's Phosphate Buffered Saline Solution**
Formulation:	See current catalog

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:		Clear, colorless solution	
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

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SECTION VI - REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing. Rinse spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection:	Wear suitable protective clothing, safety glasses with side shields and rubber gloves are recommended.
Storage:	Store as recommended on label. There are no special requirements.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

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All information is offered gratuitously and in good faith as accurate, but is furnished without guaranty. No claim is made that the information is all-inclusive, and it should be used only as a guide. Irvine Scientific shall not be held liable for any damage resulting from handling or from contact with the product.

SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	**9240**
Description:	**PBS 1X - Dulbecco's Phosphate Buffered Saline Solution**
Formulation:	Proprietary

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:		Clear colorless solution.	
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.	
Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

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w/o CALCIUM + MAGNESIUM SALTS

SECTION VI - REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing. Wash spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection:	Safety glasses with side shields and gloves are recommended.
Storage:	Store as recommended on label in a dry place. There are no special requirements

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

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MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Catalog Number:	9157
Trade Name:	RPMI Medium 1X HEPES
Manufacturer/Supplier:	IRVINE SCIENTIFIC
Address:	2511 Daimler Street Santa Ana, California 92705-5588 USA
Telephone Number:	(800) 437-5706
FAX Number:	(949) 261-6522
Emergency Phone Number:	(800) 437-5706, extension 209

2. COMPOSITION/INFORMATION ON THE COMPONENTS

Product Formal Name:	RPMI Medium 1X HEPES
Product Chemical Name:	Tissue Culture Medium

Hazardous Component	Approximate %	CAS Number
HEPES, free acid	25%	7365-45-9
Sodium Chloride	25%	7647-14-5
Sodium Bicarbonate	11%	144-55-8
Glucose (dextrose) anhydrous	10%	50-99-7
HEPES, sodium salt	9%	75277-39-3
Sodium Phosphate, dibasic	4%	7558-79-4
L-Glutamine	2%	56-85-9
Potassium Chloride	2%	7447-40-7
L-Arginine·HCl	1%	1119-34-2

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3. HAZARD IDENTIFICATION

HEPES (4-2-Hydroxyethyl)-1-piperazineethanesulfonic Acid, free acid is an irritant. May cause eye irritation. **NOTE:** The toxicological properties of this material have not been fully investigated.

Sodium chloride is an irritant. May cause respiratory tract, eye and skin irritation. Ingestion of large amounts may cause gastrointestinal irritation, with nausea, vomiting and diarrhea.

Sodium Bicarbonate is an irritant, and causes eye and skin irritation. May cause respiratory irritation if inhaled, and digestive tract irritation if ingested. Prolonged or repeated skin contact may cause chronic irritation.

Glucose may cause mechanical irritation of the skin and eyes. Expected low hazard potential for normal occupational exposures.

HEPES, sodium salt is not listed in any database of hazardous or toxic materials. However, use caution when working with this substance. **NOTE:** The toxicological properties of this material have not been fully investigated.

Sodium Phosphate, dibasic is an irritant. Causes mechanical irritation of the eyes and skin. Expected low hazard for ingestion or inhalation during routine occupational exposures, but may cause irritation if inhaled or ingested.

L-Glutamine is an irritant, and may cause transient eye irritation. **NOTE:** The toxicological effects of this substance have not been fully investigated. Prolonged or repeated exposures may cause adverse reproductive effects.

Potassium chloride is an irritant, and may cause nausea and vomiting if ingested in large doses. Dust may cause mechanical irritation of the eyes.

L-Arginine·HCl is an irritant and may cause transient eye irritation. **NOTE:** The toxicological effects of this substance have not been fully investigated.

4. FIRST AID MEASURES

Eyes – Flush with copious amounts of fresh water for at least 15 minutes. Remove contact lenses, and flush thoroughly with water after removal of lenses.

Skin – Wash well with mild soap and copious amounts of fresh water. Remove any contaminated clothing. Flush skin surface with additional fresh water.

Ingestion – If victim is conscious, flush mouth with copious amounts of fresh, potable water. Do not swallow rinse water.

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4. FIRST AID MEASURES, (cont'd.)

Inhalation – Remove victim to fresh air. If breathing is labored, administer oxygen as needed. If victim is not breathing, administer artificial resuscitation or CPR.

If warranted, seek medical attention as soon as possible. Save sample of material that caused reaction, if possible, for use in determination of appropriate treatment. Supply any caregiver with a copy of this MSDS.

5. FIRE FIGHTING MEASURES

Use extinguishing media appropriate to surrounding fire. No special equipment or procedures are required. There is no explosion potential.

6. ACCIDENTAL RELEASE MEASURES

Absorb spills of reagents and samples with absorbent paper, or other absorbent material, taking care not to spread the area of the spill. Use suitable protective clothing, including safety glasses with side-shields and gloves. Rinse spill area with a suitable disinfectant. Dispose of all contaminated spill supplies in accordance with local regulations, or following the procedures established by your organization.

7. HANDLING AND STORAGE

Handling – Do not eat, drink, smoke, chew gum or apply cosmetics in laboratory areas. Do not pipette reagents or other materials by mouth. Avoid splashing or aerosol formation. Use all reagents in accordance with the relevant information supplied with the product. Avoid high temperatures for prolonged periods.

Storage – Store all reagents as directed in the labeling.

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8. EXPOSURE CONTROL/PERSONAL PROTECTION

Wear appropriate personal protective equipment when working with laboratory reagents or samples, including lab coats, disposable gloves and eye protection. Avoid hand/mouth, hand/face or hand/eye contact. Wash hands as soon as possible after removing gloves.

Control Parameters of the Hazardous Ingredients:

(1) HEPES, free acid, CAS # 7365-45-9, RTECS # TL6809000, irritant. No OSHA PELs are listed for this chemical.

(2) Sodium chloride, CAS # 7647-14-5, RTECS # VZ4725000; mutagen, reproductive effector, primary irritant. No OSHA PELs are listed for this chemical

(3) Sodium Bicarbonate, CAS # 144-55-8, RTECS # VZ0950000, mutagen, reproductive effector, primary irritant. No OSHA PELs are listed for this chemical.

(4) Glucose, CAS # 50-99-7, RTECS # LZ6600000; tumorigen, mutagen, reproductive effector. No OSHA PELs are listed for this chemical.

(5) Sodium Phosphate, dibasic, CAS # 7558-79-4, RTECS # WC4500000, skin and eye irritant, general toxicity. No OSHA PELs are listed for this chemical.

(6) L-Glutamine, CAS # 56-85-9, RTECS # MA2275100; drug, mutagen. No OSHA PELs are listed for this chemical.

(7) Potassium chloride, CAS # 7447-40-7, RTECS # TS8050000; mutagen, primary irritant. No OSHA PELs are listed for this chemical.

(8) L-Arginine.HCl, CAS # 1119-34-2, RTECS # CF1995500; drug, reproductive effector. No OSHA PELs are listed for this chemical.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Color: Colorless to pale pink

Odor: N/A

pH: 7.0-7.6

Boiling Point: 212°F

Melting Point: N/A

Flash Point: N/A

Inflammability: N/A

Autoinflammability: N/A

Explosiveness: N/A

Oxidizing Properties: N/A

Vapor Pressure: N/A

Relative Density: 1

Solubility in Water: Complete

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10. STABILITY AND REACTIVITY

This product is stable under the storage conditions described on the labeling.

Hazardous decomposition will not occur. There are no known strong incompatibilities.

11. TOXICOLOGICAL INFORMATION

(1) HEPES, free acid, CAS # 7365-45-9, RTECS # TL6809000; LD50: Oral, quail: LD50 >316 mg/kg. Irritant, general toxicity. No irritation or toxicity data reported.

(2) Sodium chloride, CAS # 7647-14-5, RTECS # VZ4725000; LD/LC50: Oral, mouse: LD50 = 4g/kg; Oral, rat: LD50 = 3 g/kg. Mutagen, reproductive effector, primary irritant. *Irritation data*: skin/rabbit/50 mg/24H/mild; skin/rabbit/500 mg/24H/mild; eyes/rabbit/100 mg/24H/moderate; eyes/rabbit/10mg/ mild. *Mutation data:* DNA inhibitor/human/fibroblast/125mMol/L. *Reproductive data:* intraplacental/wmn/TDLo 27mg/kg/15W preg. *Toxicity data*: oral/rat/LD50 3g/kg; inhalation/rat/ LC50 >42g/m3; oral/mus/LD50 4g/kg; oral/rabbit/LDLo 8g/kg; skin rabbit/LD50 >10g/kg.

(3) Sodium Bicarbonate, CAS # 144-55-8, RTECS # VZ0950000: LD50: Oral, rat: LD50 = 4220mg/kg. Mutagen, reproductive effector, primary irritant. *Mutation data;* unscheduled DNA synthesis, rat/oral/50400mg/kg/4W-C. *Irritation data;* skin/human/30mg/3D-I/mild; eye/rabbit/100mg/30S/mild. *Toxicity data;* oral/infant/TDLo/1260mg/kg, effect on lungs (respiration changes) kidney and bladder (increased urine volume); oral/man/TDLo20mg/kg/5D-I, effect on gastrointestinal system (nausea) and gross metabolic system (changes in potassium level and metabolic acidosis).

(4) Glucose, CAS # 50-99-7, RTECS # LZ6600000; LD50/LC50: Oral, rat: LD50 = 25800mg/kg. Tumorigen, mutagen, reproductive effector. *Mutation data:* DNA damage/human/other cell types/30mMol/L. *Reproductive data*: oral/wmn/TDLo 2g/kg/28W preg; intravenous/wmn/TDLo 2g/kg/39W preg; intravenous/wmn/TDLo 1057μg/kg/39W preg; intravenous/wmn/TDLo 1300mg/kg/39W preg. *Toxicity data:* oral/rabbit/LDLo 20g/kg.

(5) Sodium Phosphate, dibasic, CAS # 7558-79-4, RTECS # WC5400000; LD50: Oral, rat: LD50= 17g/kg. Skin and eye irritant, general toxicity. *Irritation data;* skin/rabbit/500mg/24H/mild; eye/rabbit/500mg/24H/mild. *Toxicity data;* rat/subcutaneous/LDLo/1g/kg; rabbit/intravenous/LDLo/1075mg/kg, behavioral effects.

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11. TOXICOLOGICAL INFORMATION (cont'd.)

(6) L-Glutamine, CAS # 56-85-9, RTECS # MA2275100; LD50/LC50: Oral, mouse: LD50 = 21700mg/kg; Oral, rat: LD50 = 7500mg/kg. Drug, mutagen. *Mutation data*: sister chromatid exchange/human/lymphocyte/10mg/L. *Toxicity data*: oral/man/TDLo 27mg/kg.

(7) Potassium chloride, CAS # 7447-40-7, RTECS # TS8050000; LD50/LC50: Oral, mouse: LD50 = 1500mg/kg; Oral, rat: LD50 = 2600mg/kg. Mutagen, primary irritant. *Irritation data;* eyes/rabbit/500 mg/24 hours/ mild. *Mutation data;* unscheduled DNA synthesis, rat/oral/1500μg/kg; DNA damage, hamster/ovary/260 mMol/L. *Toxicity data;* oral/infant/LDLo 938mg/kg; oral/wmn/TDLo, 20mg/kg; oral/man/LDLo 20mg/kg.

(8) L-Arginine.HCl, CAS # 1119-34-2, RTECS # CF1995500; LD50/LC50: Oral, rat: LD50 = 12g/kg. Drug, reproductive effector. *Reproductive data*: intraperitoneal/ rat;TDLo 90mg/kg/1-6D preg. *Toxicity data*: intraperitoneal/rat/LD50 3793mg/kg.

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL

Dispose of in accordance with applicable local laws and regulations, and the procedures established by your organization.

14. TRANSPORT INFORMATION

Proper Shipping Name: Laboratory reagent; liquid tissue culture medium; aqueous solution.

Hazard Class: Not applicable

Identification Number: Not applicable

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15. REGULATORY INFORMATION

This product does not contain any ingredients, other than those shown in Section 2, above, which have been determined to be health hazards pursuant to U.S. OSHA regulations, and which comprise 1% or more (0.1% for carcinogens) of the mixture.

The product itself is not considered a hazardous material, as defined by the criteria in 29 CFR 1910.1200, nor is it considered an EPA-regulated waste.

No constituent of the product appears on California's Proposition 65 list of chemicals known to cause cancer or reproductive toxicity.

CAS # 7365-45-9, CAS # 7647-14-5, CAS # 144-5-8, CAS # 50-99-7, CAS # 7558-79-4, CAS # 56-85-9, CAS # 7447-40-7 and CAS # 1119-34-2 appear on the U.S. EPA's TSCA inventory list.

16. OTHER INFORMATION

The information presented in this Material Safety Data Sheet is believed, but not warranted, to be accurate. The user should determine the suitability of this information for the intended use of the product, and adopt appropriate safety precautions. Contact Irvine Scientific, or your national distributor, for further information.

Date MSDS first issued: September 22, 1998 **Date of this revision:** Not applicable

Sections Affected: All

Prepared By: Roberta L. Johnson, Manager, Regulatory Affairs and Product Safety

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SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	**9330**
Description:	**Sodium Bicarbonate 7.5% Solution**
Formulation:	75 mg/ml in water

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:		Clear, colorless solution.	
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.	
Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

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SECTION VI - REACTIVITY DATA

Stability: Stable.
Conditions or Materials to Avoid: None that are established or known.
Hazardous Polymerization: To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing, safety glasses with side shields and rubber gloves. Rinse spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection: Safety glasses with side shields and gloves are recommended.
Storage: Store as recommended on label. There are no special requirements.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: POTASSIUM PHOSPHATE, MONOBASIC
COMMON SYNONYMS: POTASSIUM DIHYDROGEN PHOSPHATE
CHEMICAL FAMILY: POTASSIUM COMPOUNDS
FORMULA: KH_2PO_4
FORMULA WT.: 136.09
CAS NO.: 7778-77-0
NIOSH/RTECS NO.: N/A
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 4008,3246,3243,3247,3248,4921

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #02

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	0	NONE
FLAMMABILITY	-	0	NONE
REACTIVITY	-	0	NONE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

CAUTION

MAY CAUSE IRRITATION.
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER

2 - PRODUCT IDENTIFICATION (continued)

HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
POTASSIUM DIHYDROGEN PHOSPHATE	7778-77-0	99-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: N/A

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 2.34 (H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): APPRECIABLE (>10%)

% VOLATILES BY VOLUME: 0 (21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE CRYSTALLINE POWDER. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

5 - FIRE AND EXPLOSION HAZARD DATA (continued)

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
NONE IDENTIFIED.

UNUSUAL FIRE & EXPLOSION HAZARDS
NONE IDENTIFIED.

TOXIC GASES PRODUCED
OXIDES OF PHOSPHORUS

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

NO INFORMATION IS AVAILABLE
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

6 - HEALTH HAZARD DATA (continued)

INHALATION: NONE IDENTIFIED

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NONE IDENTIFIED

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
NONE INDICATED

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: NO CHRONIC: NO FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE

INCOMPATIBLES: NONE IDENTIFIED

DECOMPOSITION PRODUCTS: OXIDES OF PHOSPHORUS

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

SPECIAL PRECAUTIONS
MATERIAL IS HYGROSCOPIC.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 28352400009

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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FOR 2SP

J.T.BAKER MSDS
MSDS for SODIUM PHOSPHATE, DIBASIC, ANHYDROUS

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: SODIUM PHOSPHATE, DIBASIC, ANHYDROUS
COMMON SYNONYMS: DISODIUM HYDROGEN PHOSPHATE; SODIUM MONOHYDROGEN PHOSPHATE
CHEMICAL FAMILY: INORGANIC SODIUM COMPOUNDS
FORMULA: NA2HPO4
FORMULA WT.: 141.96
CAS NO.: 7558-79-4
NIOSH/RTECS NO.: WC4500000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 4062,3830,3826,3827,3829,3828

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/20/94 ISSUED: 10/01/94
REVISION #04

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	0	NONE
REACTIVITY	-	1	SLIGHT
CONTACT	-	2	MODERATE

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

WARNING
CAUSES IRRITATION. HARMFUL IF SWALLOWED OR INHALED.
AVOID CONTACT WITH EYES, SKIN, CLOTHING. AVOID BREATHING DUST. KEEP IN

2 - PRODUCT IDENTIFICATION (continued)

TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SODIUM PHOSPHATE, DIBASIC	10039-32-4	98-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: N/A

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 1.62 (H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): APPRECIABLE (>10%)

% VOLATILES BY VOLUME: 0 (21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE GRANULAR POWDER. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

5 - FIRE AND EXPLOSION HAZARD DATA (continued)

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS
CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE.

TOXIC GASES PRODUCED
OXIDES OF PHOSPHORUS

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR SODIUM PHOSPHATE, DIBASIC 17 G/KG
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA (continued)

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT

SKIN CONTACT: IRRITATION, PROLONGED CONTACT MAY CAUSE DERMATITIS

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NAUSEA, VOMITING, DIARRHEA, IRRITATION AND BURNS TO MOUTH AND STOMACH

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: NO FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

6 - HEALTH HAZARD DATA (continued)

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS SODIUM PHOSPHATE, DIBASIC (RQ = 5000 LBS)
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE, HEAT

INCOMPATIBLES: STRONG ACIDS

DECOMPOSITION PRODUCTS: OXIDES OF PHOSPHORUS

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (SODIUM PHOSPHATE, DIBASIC, ANHYDROUS)
HAZARD CLASS: 9
UN/NA: UN3077 REPORTABLE QUANTITY: 5000 LBS. PACKAGING GROUP: III
LABELS: CLASS 9
REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 28352200001

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

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FOR 2SP

January 22, 2004

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: S0389
NAME: SUCROSE MOLECULAR BIOLOGY REAGENT

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 57-50-1
MF: C12H22O11
EC NO: 200-334-9

SYNONYMS
BEET SUGAR * CANE SUGAR * CONFECTIONER'S SUGAR * FRUCTOFURANOSIDE, ALPHA-D-GLUCOPYRANOSYL, BETA-D * BETA-D-FRUCTOFURANOSIDE, ALPHA-D-GLUCOPYRANOSYL * GLUCOPYRANOSIDE, BETA-D-FRUCTOFURANOSYL, ALPHA-D * ALPHA-D-GLUCOPYRANOSYL BETA-D-FRUCTOFURANOSIDE * (ALPHA-D-GLUCOSIDO)-BETA-D-FRUCTOFURANOSIDE * GRANULATED SUGAR * NCI-C56597 * ROCK CANDY * SACCHAROSE * SACCHARUM * SUCROSE (ACGIH:OSHA) * SUGAR *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
DATA NOT AVAILABLE

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - -
CHEMICAL SAFETY GOGGLES.
USE PROTECTIVE CLOTHING, GLOVES AND MASK.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
CHEMICAL SAFETY GOGGLES.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR IN NONVENTILATED AREAS AND/OR FOR EXPOSURE ABOVE THE ACGIH TLV.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.

010999

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
WHITE CRYSTALS

PHYSICAL PROPERTIES
MELTING POINT: 189 C TO 191 C

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

STABILITY
STABLE.

CONDITIONS TO AVOID
HEAT

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
MAY CAUSE IRRITATION.

RTECS #: WN6500000
SUCROSE

TOXICITY DATA
ORL-RAT LD50:29700 MG/KG TXAPA9 7,609,65
IPR-MUS LD50:14000 MG/KG PCJOAU 15,139,81
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE IN WATER AND DILUTE TO A 5% SOLUTION. CHECK THE PH AND ADJUST IT TO 7 IF NECESSARY. POUR THE SOLUTION DOWN THE DRAIN WITH RUNNING WATER AND CONTINUE TO FLUSH THE DRAIN SYSTEM FOR 10 MINUTES, PROVIDED THAT RULES AT YOUR PLACE OF EMPLOYMENT OR LOCAL, STATE AND FEDERAL GUIDELINES ALLOW YOU TO DO SO. IF YOU ARE UNABLE TO FLUSH THE SOLUTION DOWN THE DRAIN OR IN DOUBT ABOUT THE SUITABILITY OF THE METHOD USE A LICENSED WASTE DISPOSAL COMPANY.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
ACGIH TLV-TWA 10 MG/M3, TOTAL DUST 85INA8 6,1449,91
MSHA STANDARD:NUISANCE PARTICULATES
DTLWS* 3,28,73
OSHA PEL (GEN INDU):8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 29,1910.1000,94
OSHA PEL (GEN INDU):8H TWA 5 MG/M3, RESPIRABLE DUST
CFRGBR 29,1910.1000,94
OSHA PEL (CONSTRUC):8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 29,1926.55,94
OSHA PEL (CONSTRUC):8H TWA 5 MG/M3, RESPIRABLE DUST
CFRGBR 29,1926.55,94
OSHA PEL (SHIPYARD):8H TWA 15 MG/M3, TOTAL DUST

CFRGBR 29,1915.1000,93
OSHA PEL (SHIPYARD):8H TWA 5 MG/M3, RESPIRABLE DUST
CFRGBR 29,1915.1000,93
OSHA PEL (FED CONT):8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 41,50-204.50,94
OSHA PEL (FED CONT):8H TWA 5 MG/M3, RESPIRABLE DUST
CFRGBR 41,50-204.50,94
OEL-AUSTRALIA:TWA 10 MG/M3 JAN93
OEL-BELGIUM:TWA 10 MG/M3 JAN93
OEL-FRANCE:TWA 10 MG/M3 JAN93
OEL-UNITED KINGDOM:TWA 10 MG/M3 JAN93
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO SUCROSE, RESPIRABLE FRACTION-AIR:10H TWA 5 MG/M3
NIOSH* DHHS #92-100,92
NIOSH REL TO SUCROSE, TOTAL DUST-AIR:10H TWA 10 MG/M3
NIOSH* DHHS #92-100,92
NOHS 1974: HZD 81515; NIS 101; TNF 12044; NOS 86; TNE 121005
NOES 1983: HZD 81515; NIS 108; TNF 15179; NOS 110; TNE 368912; TFE 169962
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: MAMMALIAN MICRONUCLEUS
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1996

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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SOLUTIONS DEPARTMENT
MSDS for SPG TRANSPORT MEDIUM (HANK'S TRANPORT MEDIUM)

1 - Site Specific Information

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: SPG TRANSPORT MEDIUM, HANK'S TRANSPORT MEDIUM

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#
SUCROSE	7.5	57-50-1
GLUTAMIC ACID, FREE ACID	0.072	56-86-0
SODIUM PHOSPHATE, DIBASIC, ANHYDROUS	0.122	7558-79-4
POTASSIUM PHOSPHATE, MONOBASIC	0.052	7778-77-0
H2O	92.254	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X			0	0	0	0

SPECIAL HAZARD RATING: NONE

5 - Section IV - Storage and Stability

STORAGE: REFRIGERATE
STABILITY: 1 YEAR

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: SODIUM PHOSPHATE, DIBASIC, ANHYDROUS
COMMON SYNONYMS: DISODIUM HYDROGEN PHOSPHATE; SODIUM MONOHYDROGEN PHOSPHATE
CHEMICAL FAMILY: INORGANIC SODIUM COMPOUNDS
FORMULA: NA2HPO4
FORMULA WT.: 141.96
CAS NO.: 7558-79-4
NIOSH/RTECS NO.: WC4500000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 4062,3830,3826,3827,3829,3828

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/20/94 ISSUED: 10/01/94
REVISION #04

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	0	NONE
REACTIVITY	-	1	SLIGHT
CONTACT	-	2	MODERATE

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

WARNING

CAUSES IRRITATION. HARMFUL IF SWALLOWED OR INHALED.
AVOID CONTACT WITH EYES, SKIN, CLOTHING. AVOID BREATHING DUST. KEEP IN

2 - PRODUCT IDENTIFICATION (continued)

TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SODIUM PHOSPHATE, DIBASIC	10039-32-4	98-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: N/A

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 1.62 (H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): APPRECIABLE (>10%)

% VOLATILES BY VOLUME: 0 (21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE GRANULAR POWDER. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

5 - FIRE AND EXPLOSION HAZARD DATA (continued)

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS
CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE.

TOXIC GASES PRODUCED
OXIDES OF PHOSPHORUS

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR SODIUM PHOSPHATE, DIBASIC 17 G/KG
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA (continued)

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT

SKIN CONTACT: IRRITATION, PROLONGED CONTACT MAY CAUSE DERMATITIS

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NAUSEA, VOMITING, DIARRHEA, IRRITATION AND BURNS TO MOUTH AND STOMACH

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. PROMPT ACTION IS ESSENTIAL.

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: NO FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

6 - HEALTH HAZARD DATA (continued)

EXTREMELY HAZARDOUS SUBSTANCE:	NO	
CERCLA HAZARDOUS SUBSTANCE:	YES	CONTAINS SODIUM PHOSPHATE, DIBASIC (RQ = 5000 LBS)
SARA 313 TOXIC CHEMICALS:	NO	
TSCA INVENTORY:	YES	

7 - REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE, HEAT

INCOMPATIBLES: STRONG ACIDS

DECOMPOSITION PRODUCTS: OXIDES OF PHOSPHORUS

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (SODIUM PHOSPHATE, DIBASIC, ANHYDROUS)
HAZARD CLASS: 9
UN/NA: UN3077 REPORTABLE QUANTITY: 5000 LBS. PACKAGING GROUP: III
LABELS: CLASS 9
REGULATORY REFERENCES: 49CFR 172.101

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 28352200001

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

January 14, 2004

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SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - -
CATALOG #: S0389
NAME: SUCROSE MOLECULAR BIOLOGY REAGENT

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 57-50-1
MF: C12H22O11
EC NO: 200-334-9

SYNONYMS
BEET SUGAR * CANE SUGAR * CONFECTIONER'S SUGAR * FRUCTOFURANOSIDE, ALPHA-D-GLUCOPYRANOSYL, BETA-D * BETA-D-FRUCTOFURANOSIDE, ALPHA-D-GLUCOPYRANOSYL * GLUCOPYRANOSIDE, BETA-D-FRUCTOFURANOSYL, ALPHA-D * ALPHA-D-GLUCOPYRANOSYL BETA-D-FRUCTOFURANOSIDE * (ALPHA-D-GLUCOSIDO)-BETA-D-FRUCTOFURANOSIDE * GRANULATED SUGAR * NCI-C56597 * ROCK CANDY * SACCHAROSE * SACCHARUM * SUCROSE (ACGIH:OSHA) * SUGAR *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
DATA NOT AVAILABLE

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
CHEMICAL SAFETY GOGGLES.
USE PROTECTIVE CLOTHING, GLOVES AND MASK.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
CHEMICAL SAFETY GOGGLES.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR IN NONVENTILATED AREAS AND/OR FOR EXPOSURE ABOVE THE ACGIH TLV.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.

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DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
WHITE CRYSTALS

PHYSICAL PROPERTIES
MELTING POINT: 189 C TO 191 C

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

STABILITY
STABLE.

CONDITIONS TO AVOID
HEAT

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
MAY CAUSE IRRITATION.

RTECS #: WN6500000
SUCROSE

TOXICITY DATA
ORL-RAT LD50:29700 MG/KG TXAPA9 7,609,65
IPR-MUS LD50:14000 MG/KG PCJOAU 15,139,81
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE IN WATER AND DILUTE TO A 5% SOLUTION. CHECK THE PH AND ADJUST IT TO 7 IF NECESSARY. POUR THE SOLUTION DOWN THE DRAIN WITH RUNNING WATER AND CONTINUE TO FLUSH THE DRAIN SYSTEM FOR 10 MINUTES, PROVIDED THAT RULES AT YOUR PLACE OF EMPLOYMENT OR LOCAL, STATE AND FEDERAL GUIDELINES ALLOW YOU TO DO SO. IF YOU ARE UNABLE TO FLUSH THE SOLUTION DOWN THE DRAIN OR IN DOUBT ABOUT THE SUITABILITY OF THE METHOD USE A LICENSED WASTE DISPOSAL COMPANY.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
ACGIH TLV-TWA 10 MG/M3, TOTAL DUST 85INA8 6,1449,91
MSHA STANDARD:NUISANCE PARTICULATES
DTLWS* 3,28,73
OSHA PEL (GEN INDU):8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 29,1910.1000,94
OSHA PEL (GEN INDU):8H TWA 5 MG/M3, RESPIRABLE DUST
CFRGBR 29,1910.1000,94
OSHA PEL (CONSTRUC):8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 29,1926.55,94
OSHA PEL (CONSTRUC):8H TWA 5 MG/M3, RESPIRABLE DUST
CFRGBR 29,1926.55,94
OSHA PEL (SHIPYARD):8H TWA 15 MG/M3, TOTAL DUST

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CFRGBR 29,1915.1000,93
OSHA PEL (SHIPYARD):8H TWA 5 MG/M3, RESPIRABLE DUST
CFRGBR 29,1915.1000,93
OSHA PEL (FED CONT):8H TWA 15 MG/M3, TOTAL DUST
CFRGBR 41,50-204.50,94
OSHA PEL (FED CONT):8H TWA 5 MG/M3, RESPIRABLE DUST
CFRGBR 41,50-204.50,94
OEL-AUSTRALIA:TWA 10 MG/M3 JAN93
OEL-BELGIUM:TWA 10 MG/M3 JAN93
OEL-FRANCE:TWA 10 MG/M3 JAN93
OEL-UNITED KINGDOM:TWA 10 MG/M3 JAN93
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO SUCROSE, RESPIRABLE FRACTION-AIR:10H TWA 5 MG/M3
NIOSH* DHHS #92-100,92
NIOSH REL TO SUCROSE, TOTAL DUST-AIR:10H TWA 10 MG/M3
NIOSH* DHHS #92-100,92
NOHS 1974: HZD 81515; NIS 101; TNF 12044; NOS 86; TNE 121005
NOES 1983: HZD 81515; NIS 108; TNF 15179; NOS 110; TNE 368912; TFE 169962
EPA GENETOX PROGRAM 1988, INCONCLUSIVE: MAMMALIAN MICRONUCLEUS
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1996

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

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January 14, 2004

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SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - -
CATALOG #: G1251
NAME: L-GLUTAMIC ACID FREE ACID

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 56-86-0
MF: C5H9NO4
EC NO: 200-293-7
SYNONYMS
ALPHA-AMINOGLUTARIC ACID * L-2-AMINOGLUTARIC ACID * 2-AMINOPENTANEDIOIC ACID * 1-AMINOPROPANE-1,3-DICARBOXYLIC ACID * GLUSATE * GLUTACID * GLUTAMIC ACID * L-GLUTAMIC ACID * ALPHA-GLUTAMIC ACID * GLUTAMINIC ACID * D-GLUTAMIENSUUR * L-GLUTAMINIC ACID * GLUTAMINOL * GLUTATON *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
DATA NOT AVAILABLE

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - -
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -
EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
CHEMICAL SAFETY GOGGLES.
USE PROTECTIVE CLOTHING, GLOVES AND MASK.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
CHEMICAL SAFETY GOGGLES.
RUBBER GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
KEEP TIGHTLY CLOSED.

011013

STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR

WHITE CRYSTALLINE POWDER

PHYSICAL PROPERTIES

MELTING POINT: 205 C (DEC)

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

INCOMPATIBILITIES

STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:

CARBON MONOXIDE, CARBON DIOXIDE

NITROGEN OXIDES

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS

MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.

MAY CAUSE EYE IRRITATION.

MAY CAUSE SKIN IRRITATION.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: LZ9700000

GLUTAMIC ACID, L-

TOXICITY DATA

ORL-RAT LD50:>30 GM/KG	FAONAU 48A,42,70
ORL-RBT LD50:>2300 MG/KG	FAONAU 48A,42,70

TARGET ORGAN DATA

BEHAVIORAL (HEADACHE)

GASTROINTESTINAL (NAUSEA OR VOMITING)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

OEL-RUSSIA:STEL 10 MG/M3 JAN93

NOHS 1974: HZD 80420; NIS 6; TNF 446; NOS 13; TNE 10592

NOES 1983: HZD 80420; NIS 10; TNF 915; NOS 27; TNE 11240; TFE 5754

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH, FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: POTASSIUM PHOSPHATE, MONOBASIC
COMMON SYNONYMS: POTASSIUM DIHYDROGEN PHOSPHATE
CHEMICAL FAMILY: POTASSIUM COMPOUNDS
FORMULA: KH2PO4
FORMULA WT.: 136.09
CAS NO.: 7778-77-0
NIOSH/RTECS NO.: N/A
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 4008,3246,3243,3247,3248,4921

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #02

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	0	NONE
FLAMMABILITY	-	0	NONE
REACTIVITY	-	0	NONE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

CAUTION

MAY CAUSE IRRITATION.
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER

2 - PRODUCT IDENTIFICATION (continued)

HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
POTASSIUM DIHYDROGEN PHOSPHATE	7778-77-0	99-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

MELTING POINT: N/A

SPECIFIC GRAVITY: 2.34 (H2O=1)

SOLUBILITY(H20): APPRECIABLE (>10%)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

VAPOR PRESSURE (MMHG): N/A

VAPOR DENSITY (AIR=1): N/A

EVAPORATION RATE: N/A

% VOLATILES BY VOLUME: 0 (21 C)

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE CRYSTALLINE POWDER. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

5 - FIRE AND EXPLOSION HAZARD DATA (continued)

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
NONE IDENTIFIED.

UNUSUAL FIRE & EXPLOSION HAZARDS
NONE IDENTIFIED.

TOXIC GASES PRODUCED
OXIDES OF PHOSPHORUS

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

NO INFORMATION IS AVAILABLE
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

6 - HEALTH HAZARD DATA (continued)

INHALATION: NONE IDENTIFIED

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NONE IDENTIFIED

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
NONE INDICATED

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: NO CHRONIC: NO FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE

INCOMPATIBLES: NONE IDENTIFIED

DECOMPOSITION PRODUCTS: OXIDES OF PHOSPHORUS

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

SPECIAL PRECAUTIONS
MATERIAL IS HYGROSCOPIC.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 28352400009

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

TRANSPORT MEDIA

remel

Apogent

MATERIAL SAFETY DATA SHEET
Conforms to OSHA CFR49 Sec 1910.1200

SECTION I-IDENTIFICATION

Product Name: M4RT, M4, M5
Reference number(s) 12505,12500,12502,12503, 12506,12515,12516,12520,12521,12550,12551, 12552, 12553,12555,12556,12570,12571,12572,12573,12574,12575, 12576, 12577, 12578, 12579,12580,12581
Formula: Preparations manufactured as selective transport medium with Phenol red solution imparting a red/orange color.
These products contain no hazardous materials above 1% or cancer causing agents above 0.1%.

SECTION II-HAZARDOUS INGREDIENTS

Material	Sucrose	Hepes	L-Glutamic Acid	Potassium Chloride	Gelatin	Bovine Albumin	Magnesium Sulfate	Calcium Chloride
CAS #	57-50-1	103404-87-1	N/A	7447-40-7	9000-70-8	N/A	7487-88-9	10043-52-4
% Weight	6.8%	Not Regulated	Not Regulated	Not Regulated	Not Regulated	Not Regulated	Not Regulated	Not Regulated

SECTION III-PHYSICAL DATA

	Sucrose	Hepes	L-Glutamic Acid	Potassium Chloride	Gelatin	Bovine Albumin	Magnesium Sulfate	Calcium Chloride
Boiling Point:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1600°C
Vapor Pressure:	No Data	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vapor Density (air=1)	No Data	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Water Solubility:	Soluble	Soluble	Soluble	Soluble	Soluble	300g/L	Soluble	Very soluble
Appearance and odor:	White Crystals	White crystals	White Crystals	White crystals	Tan Powder	White	White powder	White grey
Melting Point:	186°C	N/A	N/A	770°C	200°C	197°C	100°C	782°C
Specific Gravity	1.587	N/A	N/A	1.984	N/A	N/A	2.65	2.15
% Volatile by Volume	0(21°C)	0(21°C)	0(21°C)	0(21°C)	0(21°C)	0(21°C)	0(21°C)	0(21°C)
Evaporation Rate (ether=1):	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data

SECTION IV-FIRE AND EXPLOSION DATA

	Sucrose	Hepes	L-Glutamic Acid	Potassium Chloride	Gelatin	Bovine Albumin	Magnesium sulfate	Calcium Chloride
Flash Point	Noncom-bustible	Noncom-bustible	Noncom-bustible	Noncom-bustible	Noncom-bustible	Noncom-bustible	Noncom-bustible	Noncom-bustible
Explosive Limits	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Extinguishing Media: Use extinguishing media applicable to surrounding fire conditions.
Special Precautions: None Required
Unusual Fire and Explosive Data: May emit toxic fumes under fire conditions.

SECTION V-HEALTH HAZARD AND EMERGENCY

	Sucrose	Hepes	L-Glutamic Acid	Potassium Chloride	Gelatin	Bovine Albumin	Magnesium Sulfate	Calcium Chloride
Exposure Limits:								
OSHAPEL:	15mg/m3	No Data	No Data	No Data	No Data	No Data	No Data	No Data
ACGIH-TOV:	10mg/m3	No Data	No Data	No Data	No Data	No Data	No Data	No Data
ORALRAT LD50 100mg/kg	29700mg/kg	No Data	>30gm/kg	2,600mg/kg	No Data	No Data	>90ml/kg	1,000mg/kg

Acute Health Effects: CAUTION! May be harmful if swallowed. May cause irritation to skin, eyes. Wash immediately with copious amounts of water for at least 15 minutes.
Primary Routes of Entry/First Aid:
Inhalation: Remove Victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical assistance, if necessary.
Ingestion: For small amounts, drink several large glasses of water. For large amounts seek medical attention.
Carcinogen Potential: The components specified are not regulated by the IARC, NTP,NIOSH or OSHA. One antibiotic contained herein is part of Proposition 65 listing.

Target Organ Effects:

Additional Information: Warning this product contains antibiotic(s) in small amounts, which are known to the State of California to cause reproductive harm.

Medical Conditions Aggravated by Exposure: Persons with pre-existing diabetes, if ingested, could go into shock.

SECTION VI-REACTIVITY

Stability: Stable
Incompatibility: Strong oxidizing agents, acids and nitrates.
Hazardous polymerization: Will not occur.
Hazardous Decomposition Products: Toxic fumes of carbon dioxide/ carbon monoxide.
Conditions to Avoid: Data not available.

SECTION VII-SPILL AND DISPOSAL

Spill Procedures: Wear protective clothing and equipment as specified in Section VIII. Contain spill. Scoop up and place in an approved hazardous waste container.
Disposal Procedures: If inoculated or expired handle as biohazard waste. Autoclave and use a licensed TSDF facility.

SECTION VIII-PROTECTION DATA

Eyes: Chemical safety goggles.
Gloves: Chemical resistant gloves.
Respiratory: None.
Ventilation: None.
Other: None.

SECTION IX-HANDLING AND STORAGE

Store at 15-30°C (59-86°F).

SECTION X – SHIPPING

DOT: Not regulated
IMDG: Not regulated
IATA: Not regulated

SECTION X-MISCELLANEOUS DATA

This information is believed to be correct, however, no waranties are made with respect to this information and REMEL Inc. assumes no liability resulting from use. Make independent determinations of the suitability and completeness of information from all sources, to assure proper use and disposal of this product and personnel safety and health. Data for each component is specified where applicable, as mixtures have not been tested.

Reference Number 12505,Various
Rev. 5/30/2002

REMEL Inc.
12076 Santa Fe Drive
Lenexa, KS 66215
(800) 255-6730

SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 02/04/2004
Date Updated: 09/01/2002
Version 1.40

Section 1 - Product and Company Information

Product Name	TRYPSIN TPCK TREATED FROM BOVINE PANCREAS ASEPTICALLY FILLED		
Product Number	T8802		
Brand	Sigma Chemical		
Company	Sigma-Aldrich		
Street Address	3050 Spruce Street		
City, State, Zip, Country	SAINT LOUIS, MO 63103 US		
Technical Phone:	314 771 5765	**Emergency Phone:**	414 273 3850 Ext. 5996
Fax:	800 325 5052		

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
TRYPSIN	9002-07-7	No

Formula
Synonyms Parenzyme, Parenzymol, Tryptar, Trypure, U-4858

Section 3 - Hazards Identification

Emergency Overview
Harmful.
Irritating to eyes, respiratory system, and skin. May cause sensitization by inhalation.
Target organ(s): Lungs.

HMIS Rating
Health: 3* Flammability: 0 Reactivity: 1

NFPA Rating
Health: 3 Flammability: 0 Reactivity: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

SIGMA-ALDRICH

3050 Spruce Street
SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052
www.sigma-aldrich.com

MALOU VILLEGAS

2/4/04

Fax: 8185036857

Dear Sigma-Aldrich Customer

We recently reorganized our MSDS to better serve you, our valued customer. In addition to an updated look, our sheets now feature a revision date, NFPA/HMIS ratings, and transportation information.

As always, customer service is our top priority. Please contact the MSDS department toll-free at 800-521-8956 ext. 2143 if you have any questions or comments.

MSDS Reference Number: P11891105

Attached please find the Material Safety Data Sheets you requested.

Material: Sigma Chemical - T8802
TRYPSIN TPCK TREATED FROM BOVINE PANCREAS ASEPTICALLY FILLED
Substance : 9002-07-7 TRYPSIN SARA 313: No

SIGMA-ALDRICH

3050 Spruce Street
SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Emergency Phone: 414 273 3850 Ext. 5996
Fax: 800 325 5052
www.sigma-aldrich.com

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We've listened to you and improved the efficiency, accessibility and content of our material safety data sheets (MSDS). Access them online, 24 hours a day, at www.sigma-aldrich.com.

For your convenience, our new format is easier-to-read and contains even more of the information you requested, such as HMIS/NFPA and transportation classification.

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Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: Xn

Indication of Danger

Harmful.

Risk Statements **R:** 36/37/38 42

Irritating to eyes, respiratory system, and skin. May cause sensitization by inhalation.

Safety Statements **S:** 22 24 26 36/37

Do not breathe dust. Avoid contact with skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.

US Classification and Label Text

Indication of Danger

Harmful.

Risk Statements

Irritating to eyes, respiratory system, and skin. May cause sensitization by inhalation.

Safety Statements

Do not breathe dust. Avoid contact with skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.

US Statements

Target organ(s): Lungs.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

Causes skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes eye irritation.

Inhalation

Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion

May be harmful if swallowed.

Sensitization

Sensitization

May cause allergic reaction.

Target Organ(s) or System(s)

Lungs.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: YN5075000

Toxicity Data

Oral - Rat: > 5,000 mg/kg (LD50)

Intraperitoneal - Rat: >51 MG/KG (LD50)

Intravenous - Rat: 36 MG/KG (LD50)

Intramuscular - Rat: 200 MG/KG (LD50)

Oral - Mouse: 1,450 mg/kg (LD50)

Intraperitoneal - Mouse: 100 MG/KG (LD50)

Intravenous - Mouse: 11100 UG/KG (LD50)

Intramuscular - Mouse: 105 MG/KG (LD50)

Intravenous - Rabbit: 2200 UG/KG (LD50)

Chronic Exposure - Mutagen

Species	*Dose*	*Cell Type*	*Mutation test*
Hamster	100 PPM	fibroblast	DNA damage

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

General Hygiene Measures
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance

Color	Form
Slightly beige	Fine crystals

Molecular Weight:	N/A
pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable
Stable.

Materials to Avoid
Strong oxidizing agents.

Hazardous Decomposition Products

Hazardous Decomposition Products
Nature of decomposition products not known.

Eye Exposure
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media
Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Store below 0°C.

Special Requirements
Moisture sensitive

Section 8 - Exposure Controls / PPE

Engineering Controls
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment
Respiratory
Government approved respirator.
Hand
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

IRVINE SCIENTIFIC

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MATERIAL SAFETY DATASHEET

Irvine Scientific supplies Material Safety Data Sheets for products you have purchased. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200, as well as several state and local laws and regulations, have been considered in their preparation.

All information is offered gratuitously and in good faith as accurate, but is furnished without guaranty. No claim is made that the information is all-inclusive, and it should be used only as a guide. Irvine Scientific shall not be held liable for any damage resulting from handling or from contact with the product.

SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	**9340**
Description:	**Trypsin EDTA 1X Solution**
Formulation:	See current catalog

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:	Clear, red solution		
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

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SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

SECTION VI - REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing. Wash spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection:	Safety glasses with side shields and gloves are recommended.
Storage:	Store as recommended on label. There are no special requirements.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

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IRVINE SCIENTIFIC
MATERIAL SAFETY DATA SHEET

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SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	**9341**
Description:	**Trypsin EDTA 1X Solution**
Formulation:	See current catalog.

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:		Clear, red solution.	
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.

Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

SECTION VI - REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

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SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing, safety glasses with side shields and rubber gloves. Rinse spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection:	Safety glasses with side shields and gloves are recommended.
Storage:	Store as recommended on label. There are no special requirements.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

FOR U-9 COMPLETE MEDIUM

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/30/2003 Reviewed on 06/30/2003

1 Identification of substance:

· **Product details:**
· **Product name:** Trypticase Soy Broth w/o Dextrose
· **Catalog number:** 211774

· **Manufacturer/Supplier:**
BD Diagnostic Systems
7 Loveton Circle
Sparks, MD 21152
Tel: (410) 771-0100 or (800) 638-8663
· **Information department:** Technical Services
· **Emergency information:**
In case of a chemical emergency, spill, fire, exposure, or accident contact BD Diagnostic Systems at (410)771-0100 or (800)638-8663, or ChemTrec at (800)424-9300.

2 Composition/Data on components:

· **Chemical characterization**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerous components:		
7647-14-5	sodium chloride	15.5%

3 Hazards identification

· **Hazard description:**

Xi Irritant

· **Information pertaining to particular dangers for man and environment**
R 36/37/38 Irritating to eyes, respiratory system and skin.
· **Classification system**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
· **NFPA ratings (scale 0-4)**

Health = 1
Fire = 0
Reactivity = 0

4 First aid measures

· **General information** No special measures required.
· **After inhalation** Supply fresh air; consult doctor in case of complaints.
· **After skin contact** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact** Rinse opened eye for 15 minutes under running water. Then consult a doctor.
· **After swallowing** If symptoms persist consult doctor.
· **Information for doctor** Show this label.

USA

(Contd. on page 2)

011035

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/30/2003 Reviewed on 06/30/2003

Product name: Trypticase Soy Broth w/o Dextrose

(Contd. of page 1)

5 Fire fighting measures

· **Suitable extinguishing agents**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Protective equipment:** *No special measures required.*

6 Accidental release measures

· **Person-related safety precautions:** *Not required.*
· **Measures for environmental protection:** *Wipe up with damp sponge or mop.*
· **Measures for cleaning/collecting:** *No special measures required.*
· **Additional information:** *No dangerous substances are released.*

7 Handling and storage

· **Handling**
· **Information for safe handling:** *No special measures required.*
· **Information about protection against explosions and fires:** *No special measures required.*

· **Storage**
· **Requirements to be met by storerooms and receptacles:** *No special requirements.*
· **Information about storage in one common storage facility:** *Store away from oxidizing agents.*
· **Further information about storage conditions:** *None.*

8 Exposure controls and personal protection

· **Additional information about design of technical systems:** *No further data; see item 7.*

· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** *The lists that were valid during the creation were used as basis.*

· **Personal Protective Equipment**
· **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
· **Breathing equipment:**
In case of brief exposure, use a chemical fume hood or a NIOSH/MSHA-approved respirator.
· **Protection of hands:**

Chemical resistant gloves (i.e. latex, nitrile, or equivalent).

· **Eye protection:** *Safety glasses*
· **Body protection:** *Protective work clothing (lab coat).*

USA

(Contd. on page 3)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/30/2003 Reviewed on 06/30/2003

Product name: Trypticase Soy Broth w/o Dextrose

(Contd. of page 2)

9 Physical and chemical properties:

· **General Information**	
Form:	Solid. Powder
Color:	According to product specification
Odor:	Characteristic
· **Change in condition**	
Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
· **Flash point:**	Not applicable
· **Auto igniting:**	Product is not self igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Density:**	Not determined
· **Solubility in / Miscibility with Water:**	Soluble
· **pH-value:**	Not applicable
· **Solvent content:**	
· **Solids content:**	100.0 %

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Materials to be avoided:** Incompatible material: strong oxidizers.
· **Dangerous reactions** No dangerous reactions known
· **Dangerous products of decomposition:** No dangerous decomposition products known

11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
7647-14-5 sodium chloride		
Oral	LD50	3000 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Subacute to chronic toxicity:** Target organs: respiratory tract, eyes, kidneys, and skin.
· **Additional toxicological information:**
Irritant
The product shows the following dangers according to internally approved calculation methods for preparations:

(Contd. on page 4)

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/30/2003 Reviewed on 06/30/2003

Product name: Trypticase Soy Broth w/o Dextrose

(Contd. of page 3)

12 Ecological information:

· **Ecotoxical effects:**
· **Other information:**
The ecological effects have not been thoroughly investigated, but currently none have been identified.
· **General notes:** Generally not hazardous for water.

13 Disposal considerations

· **Product:**
· **Recommendation**
Must adhere to state and federal regulations.
Smaller quantities can be disposed of with solid waste.
Disposal must be made according to the regulations found in 40 CFR 261.
This product is not considered a RCRA hazardous waste.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to state and federal regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **DOT regulations:**
· **Hazard class:** -

· **Land transport ADR/RID (cross-border)**
· **ADR/RID class:** -

· **Maritime transport IMDG:**
· **IMDG Class:** -
· **Marine pollutant:** No

· **Air transport ICAO-TI and IATA-DGR:**
· **ICAO/IATA Class:** -

15 Regulations

· **SARA Section 355 (extremely hazardous substances)**
None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**
None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act)**

8013-01-2	yeast extract
7758-11-4	potassium phosphate, dibasic
497-19-8	sodium carbonate
7487-88-9	magnesium sulfate

· **California Proposition 65 - Chemicals known to cause cancer**
None of the ingredients is listed.

(Contd. on page 5)

011038

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 06/30/2003 Reviewed on 06/30/2003

Product name: Trypticase Soy Broth w/o Dextrose

(Contd. of page 4)

· **California Proposition 65 - Chemicals known to cause reproductive toxicity**

None of the ingredients is listed.

· **Carcinogenicity categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

· **Product related hazard informations:**
The product has been classified and marked in accordance with regulations on hazardous materials.

· **Hazard symbols:**
Xi Irritant

· **Hazard-determining components of labelling:**
sodium chloride

· **Risk phrases:**
36/37/38 Irritating to eyes, respiratory system and skin.

· **Safety phrases:**
7 Keep container tightly closed.
22 Do not breathe dust.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36 Wear suitable protective clothing.

· **National regulations**

· **Water hazard class:** Generally not hazardous for water.

16 Other information:

To the best of our knowledge, the information contained herein is accurate. However, neither BD or any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

· **Department issuing MSDS:** Safety and Environment Department
· **Contact:** Technical Service Representative

USA

FOR U-9 COMPLETE MEDIUM

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: POTASSIUM PHOSPHATE, MONOBASIC
COMMON SYNONYMS: POTASSIUM DIHYDROGEN PHOSPHATE
CHEMICAL FAMILY: POTASSIUM COMPOUNDS
FORMULA: KH2PO4
FORMULA WT.: 136.09
CAS NO.: 7778-77-0
NIOSH/RTECS NO.: N/A
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 4008,3246,3243,3247,3248,4921

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NATIONAL RESPONSE CENTER # (800) 424-8802
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222 RED SCHOOL LANE
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24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #02

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	0	NONE
FLAMMABILITY	-	0	NONE
REACTIVITY	-	0	NONE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

CAUTION

MAY CAUSE IRRITATION.
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER

2 - PRODUCT IDENTIFICATION (continued)

HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
POTASSIUM DIHYDROGEN PHOSPHATE	7778-77-0	99-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: N/A

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 2.34
(H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): APPRECIABLE (>10%)

% VOLATILES BY VOLUME: 0
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE CRYSTALLINE POWDER. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

5 - FIRE AND EXPLOSION HAZARD DATA (continued)

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
NONE IDENTIFIED.

UNUSUAL FIRE & EXPLOSION HAZARDS
NONE IDENTIFIED.

TOXIC GASES PRODUCED
OXIDES OF PHOSPHORUS

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

NO INFORMATION IS AVAILABLE
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

6 - HEALTH HAZARD DATA (continued)

INHALATION: NONE IDENTIFIED

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NONE IDENTIFIED

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
NONE IDENTIFIED

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
NONE IDENTIFIED

PRIMARY ROUTES OF ENTRY
NONE INDICATED

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: NO CHRONIC: NO FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE

INCOMPATIBLES: NONE IDENTIFIED

DECOMPOSITION PRODUCTS: OXIDES OF PHOSPHORUS

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

SPECIAL PRECAUTIONS
MATERIAL IS HYGROSCOPIC.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 28352400009

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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FOR U-9 COMPLETE MEDIUM

J.T.BAKER MSDS
MSDS for SODIUM CHLORIDE

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: SODIUM CHLORIDE
COMMON SYNONYMS: SALT; ROCK SALT; SALINE; TABLE SALT
CHEMICAL FAMILY: INORGANIC SODIUM COMPOUNDS
FORMULA: NACL
FORMULA WT.: 58.44
CAS NO.: 7647-14-5
NIOSH/RTECS NO.: VZ4725000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 3625,3632,4058,3624,3632,3627,3628,3629,5589,5833,4924

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EFFECTIVE: 01/04/94 ISSUED: 10/01/94
REVISION #03

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	0	NONE
REACTIVITY	-	0	NONE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

CAUTION

MAY CAUSE IRRITATION. MAY BE HARMFUL IF SWALLOWED IN LARGE QUANTITIES. DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER

2 - PRODUCT IDENTIFICATION (continued)

HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
SODIUM CHLORIDE	7647-14-5	99-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: 1413 C (2575 F)
(AT 760 MM HG)

VAPOR PRESSURE (MMHG): <1
(20 C)

MELTING POINT: 801 C (1473 F)
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 2.16
(H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): APPRECIABLE (>10%)

% VOLATILES BY VOLUME: 0
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE CRYSTALLINE SOLID. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

UNUSUAL FIRE & EXPLOSION HAZARDS
NONE IDENTIFIED.

TOXIC GASES PRODUCED
HYDROGEN CHLORIDE

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR SODIUM CHLORIDE	3000 MG/KG
INTRAPERITONEAL MOUSE LD50 FOR SODIUM CHLORIDE	2602 MG/KG
SUBCUTANEOUS MOUSE LD50 FOR SODIUM CHLORIDE	3150 MG/KG
INTRAVENOUS MOUSE LD50 FOR SODIUM CHLORIDE	645 MG/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

6 - HEALTH HAZARD DATA (continued)

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: INGESTION OF LARGE QUANTITIES MAY CAUSE GASTROINTESTINAL IRRITATION

CHRONIC EFFECTS: HIGH BLOOD PRESSURE, RAPID INEFFECTIVE BREATHING

TARGET ORGANS
EYES, SKIN, RESPIRATORY SYSTEM, MUCOUS MEMBRANES

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
HIGH BLOOD PRESSURE

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

6 - HEALTH HAZARD DATA (continued)

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: NONE DOCUMENTED

INCOMPATIBLES: STRONG OXIDIZING AGENTS, LITHIUM, INTER-HALOGENS (EX. BROMINE TRIFLUORIDE), IRON, CEMENT

DECOMPOSITION PRODUCTS: HYDROGEN CHLORIDE

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, PROPER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 25010000000

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

N/A = NOT APPLICABLE, OR NOT AVAILABLE
N/E = NOT ESTABLISHED.

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES.

EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.

FOR U-9 COMPLETE MEDIUM

1 - Site Specific Information

No SITE SPECIFIC INFORMATION has been entered for this chemical

2 - PRODUCT IDENTIFICATION

PRODUCT NAME: UREA
COMMON SYNONYMS: CARBAMIDE; CARBONYL DIAMIDE; CARBONYLDIAMINE; ISOUREA
CHEMICAL FAMILY: AMIDES
FORMULA: NH2CONH2
FORMULA WT.: 60.06
CAS NO.: 57-13-6
NIOSH/RTECS NO.: YR6250000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: X331,4204,4021,4205,4836,4021,4111,4203,4206,4021,5594

CHEMTREC # (800) 424-9300
NATIONAL RESPONSE CENTER # (800) 424-8802
J.T.BAKER INC.
222 RED SCHOOL LANE
PHILLIPSBURG, NJ 08865
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151

EFFECTIVE: 02/07/94 ISSUED: 10/01/94
REVISION #05

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* SYSTEM

HEALTH	-	0	NONE
FLAMMABILITY	-	1	SLIGHT
REACTIVITY	-	0	NONE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT

U.S. PRECAUTIONARY LABELING

CAUTION

MAY CAUSE IRRITATION. MAY BE HARMFUL IF INHALED.
DURING USE AVOID CONTACT WITH EYES, SKIN, CLOTHING. WASH THOROUGHLY AFTER

2 - PRODUCT IDENTIFICATION (continued)

HANDLING. WHEN NOT IN USE KEEP IN TIGHTLY CLOSED CONTAINER.

INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

3 - COMPONENTS

COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
UREA	57-13-6	99-100	N/E	N/E

4 - PHYSICAL DATA

BOILING POINT: N/A

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: 56 C (132 F)
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 1.34
(H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H20): APPRECIABLE (>10%)

% VOLATILES BY VOLUME: 0
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE CRYSTALS. ODORLESS.

5 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): N/A

5 - FIRE AND EXPLOSION HAZARD DATA (continued)

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

FIRE EXTINQUISHING MEDIA
USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

UNUSUAL FIRE & EXPLOSION HAZARDS
DUST MAY FORM EXPLOSIVE MIXTURE WITH AIR. NOTE: DECOMPOSES AT BOILING POINT.

TOXIC GASES PRODUCED
AMMONIA, CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT
NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): NOT ESTABLISHED

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): NOT ESTABLISHED

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR UREA	14.3 G/KG
SUBCUTANEOUS RAT LD50 FOR UREA	8200 MG/KG
INTRAVENOUS MOUSE LD50 FOR UREA	4600 MG/KG

CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

6 - HEALTH HAZARD DATA (continued)

REPRODUCTIVE EFFECTS
NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT

SKIN CONTACT: IRRITATION

EYE CONTACT: IRRITATION

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NAUSEA, VOMITING, DIARRHEA, GASTROINTESTINAL IRRITATION

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS
RESPIRATORY SYSTEM

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
ASTHMA, KIDNEY DISORDERS, RESPIRATORY SYSTEM DISEASE

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: IF SWALLOWED AND THE PERSON IS CONSCIOUS, IMMEDIATELY GIVE LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION.

INHALATION: IF A PERSON BREATHES IN LARGE AMOUNTS, MOVE THE EXPOSED PERSON TO FRESH AIR.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

6 - HEALTH HAZARD DATA (continued)

EXTREMELY HAZARDOUS SUBSTANCE: NO

CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

7 - REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: HEAT, MOISTURE

INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG BASES, STRONG ACIDS

DECOMPOSITION PRODUCTS: HYDROGEN CYANIDE, AMMONIA, OXIDES OF NITROGEN, CARBON MONOXIDE, CARBON DIOXIDE

8 - SPILL & DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SUITABLE PROTECTIVE CLOTHING. CAREFULLY SWEEP UP AND REMOVE.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

9 - INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, BUTYL RUBBER GLOVES ARE RECOMMENDED.

10 - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. SUITABLE FOR ANY GENERAL CHEMICAL STORAGE AREA. ISOLATE FROM INCOMPATIBLE MATERIALS.

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)
MARINE POLLUTANTS: NO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

U.S. CUSTOMS HARMONIZATION NUMBER: 31021000009

NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

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N/E = NOT ESTABLISHED.

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EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS

11 - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (continued)

CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL.

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THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET.

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FOR U-9 COMPLETE MEDIUM

January 22, 2004

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: P3032
NAME: PENICILLIN-G SODIUM CELL CULTURE TESTED

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 69-57-8
MF: C16H17N2NAO4S
EC NO: 200-710-2

SYNONYMS
AMERICAN PENICILLIN * BENZYLPENICILLINIC ACID SODIUM SALT * BENZYLPENICILLIN SODIUM * BENZYLPENICILLIN SODIUM SALT * CRYSTAPEN * MYCOFARM * NOVOCILLIN * PEN-A-BRASIVE * PENICILLIN-G, MONOSODIUM SALT * PENICILLIN G, SODIUM * PENICILLIN G, SODIUM SALT * PENILARYN * SODIUM BENZYLPENICILLIN * SODIUM BENZYLPENICILLIN G * SODIUM BENZYLPENICILLINATE * SODIUM PENICILLIN * SODIUM PENICILLIN G * SODIUM PENICILLIN II * VETICILLIN *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS
HARMFUL
MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -
IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.
IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT

011061

GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
MECHANICAL EXHAUST REQUIRED.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
SOLID.

PHYSICAL PROPERTIES
SOLUBILITY:
WATER -SOLUBLE

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

STABILITY
STABLE.

INCOMPATIBILITIES
ACIDS
HEAVY METAL SALTS
OXIDIZING AGENTS
GLYCEROL
ALCOHOL

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES
SULFUR OXIDES

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS.
EXPOSURE CAN CAUSE:
DERMATITIS
GASTROINTESTINAL DISTURBANCES

RTECS #: XH9800000
4-THIA-1-AZABICYCLO(3.2.0)HEPTANE-2-CARBOXYLIC ACID,
3,3-DIMETHYL-7-OXO-6-(2-PHENYL
ACETAMIDO)-, MONOSODIUM SALT

TOXICITY DATA

ORL-RAT LD50:6916 MG/KG	AMPMAR 39,259,78
IVN-RAT LD50:3020 MG/KG	ARZNAD 9,31,59
PAR-RAT LD50:2900 UG/KG	AACHAX -,863,65
ORL-MUS LD50:>4 GM/KG	ABANAE 3,540,55/56
IPR-MUS LD50:3314 MG/KG	ABANAE 3,540,55/56
SCU-MUS LD50:4750 MG/KG	NYKZAU 55,23,59
IVN-MUS LD50:1500 MG/KG	ARZNAD 9,31,59
IMS-MUS LD50:2800 MG/KG	ARZNAD 9,31,59
ICE-MUS LD50:3800 UG/KG	NYKZAU 55,23,59

TARGET ORGAN DATA
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
GASTROINTESTINAL (OTHER CHANGES)
BLOOD (LYMPHOMA INCLUDING HODGKIN'S DISEASE)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
EFFECTS ON NEWBORN (GROWTH STATISTICS)
NUTRITIONAL AND GROSS METABOLIC (OTHER CHANGES)
TUMORIGENIC (EQUIVOCAL TUMORIGENIC AGENT BY RTECS CRITERIA)
TUMORIGENIC (TUMORS AT SITE OF APPLICATION)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

EUROPEAN INFORMATION

HARMFUL

R 42/43

MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

S 36

WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

NOES 1983: HZD X4380; NIS 1; TNF 137; NOS 5; TNE 7315; TFE 5985

EPA GENETOX PROGRAM 1988, INCONCLUSIVE: D MELANOGASTER SEX-LINKED LETHAL

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

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FOR U-9 COMPLETE MEDIUM

January 22, 2004

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178
Phone: 314-771-5765

Aldrich Chemical Co., Inc.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

Fluka Chemical Corp.
1001 West St. Paul
Milwaukee, WI 53233
Phone: 414-273-3850

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: P4758
NAME: PHENOL RED SODIUM

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #: 34487-61-1
MF: C19H13NAO5S
EC NO: 252-057-8

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
IRRITANT
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -
EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - -
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -
CHEMICAL SAFETY GOGGLES.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
IRRITANT.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

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SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -
APPEARANCE AND ODOR
RED TO DARK-RED POWDER
PHYSICAL PROPERTIES
MELTING POINT: 285 C (DEC)
SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -
INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
SULFUR OXIDES
SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -
ACUTE EFFECTS
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
CAUSES EYE AND SKIN IRRITATION.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -
DATA NOT YET AVAILABLE.
SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A
CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.
SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - -
CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.
SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -
EUROPEAN INFORMATION
IRRITANT
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.
SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -
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FOR U-9 COMPLETE MEDIUM

VIROLOGY

IRVINE SCIENTIFIC
MATERIAL SAFETY DATA SHEET

Irvine Scientific supplies Material Safety Data Sheets for products you have purchased. The regulations promulgated by OSHA for Hazard Communication, 29 CFR 1910.1200, as well as several state and local laws and regulations, have been considered in their preparation.

All information is offered gratuitously and in good faith as accurate, but is furnished without guaranty. No claim is made that the information is all-inclusive, and it should be used only as a guide. Irvine Scientific shall not be held liable for any damage resulting from handling or from contact with the product.

SECTION I - PRODUCT IDENTIFICATION

Catalog Number:	4023
Description:	**Horse Serum**
Formulation:	NA

SECTION II - HAZARDOUS INGREDIENTS

Not applicable - No known hazardous components.

SECTION III - PHYSICAL DATA

Appearance:	Straw colored to reddish brown.		
Boiling Point:	NA	Solubility H_2O:	NA
Specific Gravity:	NA	Vapor Pressure:	NA
Vapor Density:	NA	Evaporation Rate:	NA

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Nonflammable.	
Flash Point:	NA
Flammable Limits:	NA
Extinguishing Media:	Use appropriate media for surrounding fire.
Special Fire Fighting Procedures:	None, although as in any fire, self-contained breathing apparatus and protective clothing may be required.

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SECTION V - HEALTH HAZARD DATA

Toxicity:	Not established.
Effects of Overexposure:	Contact with skin or eyes may cause irritation.
First Aid Procedures:	Flush eyes with copious amounts of water for at least 15 minutes. Wash skin with soap and water.

SECTION VI - REACTIVITY DATA

Stability:	Stable.
Conditions or Materials to Avoid:	None that are established or known.
Hazardous Polymerization:	To our knowledge will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Wear suitable protective clothing. Rinse spill area with water.

SECTION VIII - HANDLING AND STORAGE PRECAUTIONS

Eye/Skin Protection:	Wear suitable protective clothing, safety glasses with side shields and rubber gloves.
Storage:	Store as recommended on label. There are no special requirements.

SECTION IX - SPECIAL PRECAUTIONS AND COMMENTS

Not applicable.

January 14, 2004

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SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -
CATALOG #: V2002
NAME: VANCOMYCIN HCL

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -
CAS #:123409-00-7
MF: C66H75CL2N9O24
SYNONYMS
VANCOCINE HYDROCHLORIDE * VANCOCIN HYDROCHLORIDE *

SECTION 3. - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -
LABEL PRECAUTIONARY STATEMENTS
IRRITANT
MAY CAUSE SENSITIZATION BY SKIN CONTACT.
TARGET ORGAN(S):
KIDNEYS
EARS
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -
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WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
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CHEMICAL SAFETY GOGGLES.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
AVOID INHALATION.

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AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
SENSITIZER.
KEEP TIGHTLY CLOSED.
REFRIGERATE.

SECTION 9. - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
TAN POWDER

SECTION 10. - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES
HYDROGEN CHLORIDE GAS

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

ACUTE EFFECTS
MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
MAY CAUSE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
TARGET ORGAN(S):
KIDNEYS
EARS

RTECS #: YW4380000
VANCOMYCIN, HYDROCHLORIDE

TOXICITY DATA

IVN-MAN LDLO:43 MG/KG/2W-I	AJMEAZ 81,1059,86
ORL-RAT LD50:>10 GM/KG	NIIRDN 6,597,82
IPR-RAT LD50:2218 MG/KG	IYKEDH 12,933,81
IVN-RAT LD50:319 MG/KG	IYKEDH 12,933,81
ORL-MUS LD50:>5 GM/KG	ABANAE 4,75,56/57
IPR-MUS LD50:1734 MG/KG	IYKEDH 12,933,81
SCU-MUS LD50:>5 GM/KG	ABANAE 4,75,56/57
IVN-MUS LD50:489 MG/KG	IYKEDH 12,933,81
IPR-GPG LD50:737 MG/KG	ABANAE 4,75,56/57

TARGET ORGAN DATA
CARDIAC (ARRYTHMIAS)
VASCULAR (BP LOWERING NOT CHARACTERIZED IN AUTONOMIC SECTION)
GASTROINTESTINAL (PERITONITIS)
KIDNEY, URETER, BLADDER (HEMATURIA)
BLOOD (ANGRANULOCYTOSIS)
SKIN AND APPENDAGES (AFTER SYSTEMIC EXPOSURE: DERMATITIS, ALLERGIC)
SKIN AND APPENDAGES (AFTER SYSTEMIC EXPOSURE: DERMATITIS, OTHER)
MATERNAL EFFECTS (OTHER EFFECTS ON FEMALE)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
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CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

EUROPEAN INFORMATION

CAUTION: SUBSTANCE NOT YET FULLY TESTED.

IRRITANT

R 43

MAY CAUSE SENSITIZATION BY SKIN CONTACT.

S 36

WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

NOES 1983: HZD X3897; NIS 1; TNF 312; NOS 7; TNE 9966; TFE 7206

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

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MATERIAL SAFETY DATA SHEETS

VIROLOGY

Housekeeping/Maintenance Materials

KAISER PERMANENTE.
Regional Reference Labs
11668 Sherman Way
North Hollywood, CA 91605

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KAISER PERMANENTE

Regional Reference Laboratories
11668 Sherman Way, North Hollywood, CA 91605

Environmental Health and Safety
2005 Chemical Inventory: Virology Department
Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Acetone	--	--	Solutions	Plastic	0.2L	1	cover sheet	cover sheet			
Amplicor M.tb Detection Kit	--	E11377	Roche	Kit	--	7	2/17/97	2/17/97	No	No	No
Amplicor Monitor Test 10x WB M WP DK	--	E02405	Roche	Plastic	90mL	1					
Amplicor Sputum Specimen Preparation Kit	Amplicor Mtb Specimen Preparation Kit	83004, E08309	Roche	Kit	--	10					
Amplicor Sputum Specimen Preparation Kit: Lysis Reagent	Contents of Amplicor Sputum Specimen Preparation Kit	See 83004	Roche	Plastic		1					
Amplicor Sputum Specimen Preparation Kit: Neutralization Reagent	Contents of Amplicor Sputum Specimen Preparation Kit	See 83004	Roche	Plastic		1					
Amplicor Sputum Specimen Preparation Kit: Wash Solution	Contents of Amplicor Sputum Specimen Preparation Kit	See 83004	Roche	Plastic		1					
Ampliprobe CT/GC	--	I0137	Blackhawk Biosystems	Kit	--	14					
Aptima Assay Fluids Kit	--	1133, 301129, Lot 403480	Gen-Probe	Kit	--	48					
Aptima Assay Fluids Kit: Buffer for Deactivation Fluid	Contents of Aptima Assay Fluids Kit	1133, Lot 307288	Gen-Probe	Plastic	1.4L	7	NA	NA	NA	NA	NA
Aptima Assay Fluids Kit: Oil	Contents of Aptima Assay Fluids Kit	1133, Lot 307287	Gen-Probe	Plastic	260mL	10	1/19/04	1/19/04	No	No	No
Aptima Assay Fluids Kit: System Fluid Preservative (2.5% Sodium hypochlorite solution)	Contents of Aptima Assay Fluids Kit	1133, Lot 306446	Gen-Probe	Plastic	200mL	3					
Aptima Assay Fluids Kit: Wash Solution (10mM HEPES Buffered Solution)	Contents of Aptima Assay Fluids Kit	1133, Lot 309330	Gen-Probe	Plastic	2.9L	3	1/19/04	1/19/04	NA	NA	NA
Aptima Auto Detect Kit	--	1048, Lot 403072	Gen-Probe	Box	--	50	NA	NA	NA	NA	NA
Aptima Auto Detect Kit: Auto Detect 1	Contents of Aptima Auto Detect Kit	See 1048, Lot 403072	Gen-Probe	Plastic	245mL	8	NA	NA	NA	NA	NA
Aptima Auto Detect Kit: Auto Detect 2	Contents of Aptima Auto Detect Kit	See 1048, Lot 403072	Gen-Probe	Plastic	245mL	8	3/5/04	3/5/04	No	No	No
Aptima Auto Detection Reagent Kit: Auto Detect I	Contents of Aptima Auto Detect Kit	See 1048, Lot 207290	Gen-Probe	Plastic	245mL	30	NA	NA	NA	NA	NA
Aptima Auto Detection Reagent Kit: Auto Detect II	Contents of Aptima Auto Detect Kit	See 1048, Lot 207292	Gen-Probe	Plastic	245mL	30	2/10/00	2/10/00	No	No	No

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2005 Chemical Inventory: Virology Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Aptima Buffer for Deactivation Fluid (Sodium bicarbonate buffered solution)	Contents of Aptima Combo 2 Assay Kit	See 1032, Lot 308059	Gen-Probe	Plastic	1.4L	6	2/10/00	2/10/00	No	No	No
Aptima Combo 2 Assay Kit: Amplification Reconstitution Solution	Contents of Aptima Combo 2 Assay Kit	See 1032, Lot 403182	Gen-Probe	Plastic	9.3mL	3	2/10/2000, 1/19/04	2/10/2000, 1/19/04	NA	NA	NA
Aptima Combo 2 Assay Kit: Buffer for Deactivation Fluid (800mM Bicarbonate buffered solution)	Contents of Aptima Combo 2 Assay Kit	Lot 402345	Gen-Probe	Plastic	402mL	2					
Aptima Combo 2 Assay Kit: Enzyme Reconstitution Solution (HEPES buffer solution)	Contents of Aptima Combo 2 Assay Kit	Lot 403183	Gen-Probe	Plastic	3.3mL	3	2/10/2000, 1/19/04	2/10/2000, 1/19/04	No	No	No
Aptima Combo 2 Assay Kit: Oil Reagent silicone oil	Contents of Aptima Combo 2 Assay Kit	Lot 403175	Gen-Probe	Plastic	24.6mL	2	2/10/2000, 1/19/04	2/10/2000, 1/19/04	No	No	No
Aptima Combo 2 Assay Kit: Probe Reconstitution Solution (Succinate buffer solution)	Contents of Aptima Combo 2 Assay Kit	Lot 403181	Gen-Probe	Plastic	12.4mL	3	2/10/2000, 1/19/04	2/10/2000, 1/19/04	No	No	No
Aptima Combo 2 Assay Kit: Selection Reagent (600mM Borate buffered solution	Contents of Aptima Combo 2 Assay Kit	Lot 403176	Gen-Probe	Plastic	31mL	1	2/10/2000, 1/19/04	2/10/2000, 1/19/04	No	No	No
Aptima Combo 2 Assay Kit: Target Capture Reagent B (Non-infectious nucleic acid in a buffered solution TCR-B)	Contents of Aptima Combo 2 Assay Kit	Lot 43184	Gen-Probe	Plastic	0.35mL	1	2/10/2000, 1/19/04	2/10/2000, 1/19/04	No	No	No
Aptima Combo 2 Assay Kit: Wash Solution (10mM HEPES buffered solution)	Contents of Aptima Combo 2 Assay Kit	Lot 402343	Gen-Probe	Plastic	402mL	12					
Aptima Combo 2 Assay Kit: Wash Solution (10mM HEPES buffered solution)	Contents of Aptima Combo 2 Assay Kit	Lot 402343	Gen-Probe	Plastic	245mL	20					
Aptima Combo 2 Kit	--	1032	Gen-Probe	Kit	--	123					
Aptima Combo 2 Kit	--	See 1032, Lot 404111A, 404112A	Gen-Probe	Kit	--	180					
Aptima Combo 2 Kit: STD Panel C	--	DLR0433	Gen-Probe	Kit	--	38					
Aptima Controls Kit: Control+ CT/Control- GC (Non-infectious C.Trachomatis nucleic acid in buffered solution	--	1110, Lot 402208	Gen-Probe	Plastic	1.7mL	3	2/10/2000, 1/19/04	2/10/2000, 1/19/04	No	No	No
Aptima Controls Kit: Control+ GC/Control- CT (Non-infectious N-Gonorrhoeae nucleic acid in buffered solution	--	1110, Lot 402209	Gen-Probe	Plastic	1.7mL	3	2/10/2000, 1/19/04	2/10/2000, 1/19/04	No	No	No

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2005 Chemical Inventory: Virology Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Aptima CT Analyte Specific Reagent Kit	see MSDSs of kit contents	1132, Lot 105302	Gen-Probe	Kit	--	1	~ contents: 1/23/04, 9/15/03	~ contents: 1/23/04, 9/15/03	No	No	No
Aptima GC Analyte Specific Reagent Kit	see MSDSs of kit contents	Lot 105301	Gen-Probe	Kit	--	20	~ contents: 1/23/04	~ contents: 1/23/04	No	No	2-Mercaptoethanesulfonate 5%
Aptima System Fluid Preservative (2.5% sodium hypochlorite solution)	--	Lot 308140	Gen-Probe	Plastic	200mL	6	1/19/04	1/19/04	No	No	No
Aptima Unisex Swab Specimen Collection Kit for Endocervical and Male Urethral Swab Specimens	--	1041, Lot 403017	Gen-Probe	Plastic	2.9mL	154	3/29/04	3/29/04	No	No	No
Aptima Urine Specimen Collection Kit for Male and Female Urine Specimen	Aptima Urine Collection Kit	1040, Lot 403004	Gen-Probe	Plastic	2mL	104	3/27/04	3/27/04	No	No	No
Aptima Wash Solution (10mM HEPES buffered solution)	--	Lot 308060	Gen-Probe	Plastic	2.9mL	6	1/19/04	1/19/04	NA	NA	NA
Bacdown Antimicrobial Handsoap	--	04-355-16	Fisher Scientific	Plastic	1L	1	1/26/96	8/1/02	No	No	No
BD BBL GasPak Pouch BENEK liquid	--	260651	Becton, Dickinson & Company	--	--	1					
Benzidine-cyanosine stain	--	--	Solutions	Plastic	0.1L	1					
Bleach 10%	Bleach	--	Solutions	Plastic	500 ml	2					
Bleach Enhancer for Cleaning (600mM Bicarbonate buffered solution surfactant, fragrance)	--	Lot 403379	Gen-Probe	Plastic	450mL	1	2/27/04	2/27/04	No	No	No
Buffer solution pH 4.00 certified	--	SB101-500, 024826-24	Fisher Scientific	Plastic	500mL	2	10/16/98	3/18/2003	Formaldehyde	No	No
Buffer solution pH 7.00 certified	--	SB107-500, 027619-24	Fisher Scientific	Plastic	500mL	1	11/19/98	3/18/2003	No	No	No
Chlamydia Trachomatis Direct Specimen Test	--	K02238	Wampole Microtrak	Kit	--	1					
Cida-Steryl 28 Long-Life Activated Dialdehyde	--	102327E, 1800-1	Huntington Labs	Plastic	1gal	1	6/8/99	6/8/99	No	No	No
Cytomegalovirus IFA Kit	see MSDS for CMV Indirect Immunofluorescence Assay (IFA) Kit	3135	Light Diagnostics	Kit	--	14	10/28/02	10/28/02	No	No	No
Bleach, Daybright	Bleach	--	Kik International	Plastic	1gal	17	3/20/02	3/20/02	No	No	No
Dimethyl sulfoxide 99.9% A.C.S. spectrophotometric grade	--	154938	Sigma Aldrich	Glass	500mL	1	9/2/02	9/2/02	No	No	No
Easy Scrub Cream Cleanser	--	--	Airkem	Plastic	1 L	1					
Electrode Storage Solution	--	5040-1	Fisher Scientific	Plastic	1L	2	4/27/99	3/18/2003	No	No	No

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2005 Chemical Inventory: Virology Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Enzyme Immunoassay for the Detection of H.pylori antigens in Stool Specimens	part of Premier Platinum HPSA Kit; see MSDS for Premier Platinum HpSA Substrate	601348	Meridian Bioscience	Kit	--	48	1/7/98	8/5/03	No	No	No
Erado-Sol	--	207	Cambridge Diagnostic Products	Plastic	473mL	1	10/1/03	10/1/03	No	No	No
Ethyl alcohol	Ethanol	--	Filled from stock/ Solutions	Plastic	500mL	6	10/19/04	10/19/04	No	No	No
EZ Dispenser Bleach Concentrate	Bleach		Garren Scientific	Plastic	11oz	26					
FITC Antimouse	--	B1029-86B	Mar Dx Diagnostics	Plastic	--	5	7/31/2002	7/31/2002	Mercury compound	No	Thimerosal 0.1%
Flu A	--	B1029-87B	Mar Dx Diagnostics	Plastic	--	3	7/31/2002	7/31/2002	Mercury compound	No	Thimerosal 0.1%
Flu A&B Control Slides	--	QAB-1504	Bion	Plastic	--	20					
Flu B	-	B1029-87C	Mar Dx Diagnostics	Plastic	--	5	7/31/2002	7/31/2002	Mercury compound	No	Thimerosal 0.1%
Glass and Plastic Cleaner 100	-	TX152	Texwipe	Plastic	[illegible]	1	11/1/92	11/1/[illegible]	[illegible]	No	No
Glycerol anhydrous	--	--	Solutions	Plastic	250mL	1	1/4/94	10/1/1994	No	No	No
H.pylori/C.difficile buffer	--	--	In-house	Plastic	500mL	1					
Harris	--	SLT 21V-85A	Puffer Hubbard	Plastic	--	3					
HCl 1N	--	--	Solutions	Plastic	125mL	1					
Herpes Simlex Virus Types 1 & 2 Direct Antigen Detection System	HSV 1&2 Kit	30492	BioRad	Kit	--	2	--	--	No	No	No
High-Risk HPV DNA Test	HPV Hybrid Capture II	5101-1296	Digene	Kit	--	104	(8/15/03)	(8/15/03)	No	No	No
Horse Serum	--	4023	Irvine Scientific	Plastic	500mL	1	10/21/1992	10/21/1992	NA	NA	NA
Horse Serum	--	55075	Remel	Plastic	500mL	2					
HSV Culture Identification Test	--	8H529UL	Wampole Microtrak	Kit	--	50	5/28/2003	5/28/2003	No	No	No
HSV I & II Control Slides	--	QHS-350H	Bion	Pack	--	30					
HSV Reagent Bivalent	--	B1029-47C	Mar Dx Diagnostics	Plastic	5mL	25	diag. Hybrids: 1/24/03	diag. Hybrids: 1/24/03	(Mercury compound)	No	(Thimerosal 0.1%)
HSV1/HSV2 Culture Identification/Typing Test	--	8H219U, L12901	Wampole Microtrak, Trinity Biotech	Kit	--	5					
HSV1/HSV2 Direct Specimen Identification/Typing Test	--	8H349U, L05711	Wampole Microtrak, Trinity Biotech	Kit	--	5	5/29/03	5/29/03	No	No	No
Hybrid Capture System Hybridization Microplate	--	6000-1203, 144572	Digene	--	--						
Hypochlorite T Wash Solution	--	--	In-house	Plastic	500mL	1					
Imagin Flu A & B Reagents	--	K610511	Dako	Plastic	5mL	60					
Instant Sealing Sterilization Pouch 12"x18"	--	01-812-58	Fisher	Pack	--	300					
Instrument Calibrating Kit	PCS Calibrator Solutions	PCS-600-00	Artel, Inc.	Kit	--	1	9/8/1998	8/5/2004	No	No	Copper chloride (II) dihydrate <0.15%

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2005 Chemical Inventory: Virology Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Isopropanol 70% disinfectant	--		Solutions	Plastic	500mL	1					
Location: Cold Storages											
Location: Main Department											
Location: PCR Rooms											
Location: QC Lab											
Location: Stock Room and Cabinets											
Maintenance kit	--	6000-3117	Digene	Kit	--	1					
MEM Earles Salts	--	9126	Irvine Scientific	Plastic	500mL	20	3/5/1991	3/5/1991	NA	NA	NA
Methanol	Methanol	--	Solutions	Plastic	1L	1	B&J: 10/1/1995	B&J: 10/1/1995	No	No	No
Methanol	Methanol	--	Solutions	Plastic	0.2L	1	B&J: 10/1/1995	B&J: 10/1/1995	No	No	No
Methanol Optima	Methanol	A454-4, 032315	Fisher Scientific	Glass	4L	1					
Methanol-acetone 1:1	Methanol-acetone solution	--	Solutions	Glass	4L	1	10/19/04	10/19/04	No	No	No
Methanol-acetone 1:1	Methanol-acetone solution	--	Solutions	Glass	1L	1	10/19/04	10/19/04	No	No	No
Microtest M5	Transport media	401969, 12515	Remel Apogent	Plastic	3mL	72	5/30/02	5/30/02	No	No	No
Minimum essential medium 1X	MEM	SH3A096.01, ANE18349	Hyclone	Plastic	250mL	200					
Monofluo Pneumocystis Carinli IFA Test Kit	Pneumocystis Reagent	32515	BioRad	Kit	--	12	8/12/03	8/12/03	Formaldehyde	No	No
Mucogest 50	--	Z130	Hardy	Plastic	--	1					
Mumps Control Slides	--	5029	Chemicon	Pack	--	2					
Mumps IFA Kit	--	3140	Light Diagnostics	Kit	--	3	chemicon: 10/28/02	chemicon: 10/28/02	No	No	No
Mylar Plate Sealers	--	5701	Thermo Lab Systems	--	--	21					
NaOH 1N	--	--	Solutions	Plastic	125mL	1					
Para-I	--	B1029-87D	Mar Dx Diagnostics	Plastic	--	2	7/31/2002	7/31/2002	Mercury compound	No	Thimerosal 0.1%
Para-II	--	B1029-87E	Mar Dx Diagnostics	Plastic	--	2	7/31/2002	7/31/2002	Mercury compound	No	Thimerosal 0.1%
Para-III	--	B1029-87F	Mar Dx Diagnostics	Plastic	--	2	7/31/2002	7/31/2002	Mercury compound	No	Thimerosal 0.1%
Parainfluenza 1,2,3 Control Slides	--	QP8506	Bion	Pack	--	20					
PBS 1X Buffer Solution	--	9236	Irvine Scientific	Plastic	500 ml	4	8/14/92	8/14/92	NA	NA	NA
PBS 1X Buffer Solution	--	9236	Irvine Scientific	Plastic	500 ml	5	8/14/92	8/14/92	NA	NA	NA
PBS 1X without Ca	--	9240	Irvine Scientific	Plastic	500 ml	5	4/15/92	4/15/92	NA	NA	NA
PBS 1X without Ca	--	9240	Irvine Scientific	Plastic	500 ml	5	4/15/92	4/15/92	NA	NA	NA
PCS NP Bulk Reagent Kit	--	PCS-211-00	Artel, Inc.	Kit	--	1					
PMN Isolation Medium	--	1068.00.0, 10112345	Robbins Scientific, Matrix Technologies	Bottle	100mL	50	1/1/1992	10/1/2001	No	No	No
PMN Isolation Medium	--	1068.00.0, 10112345	Robbins Scientific, Matrix Technologies	Glass	100mL	50	1/1/1992	10/1/2001	No	No	No
Polysafe Spectacles Clear	--	17-268F	Fisher	Pack	--	12					
Potassium chloride solution 4M saturated with silver chloride	--	SP135, 2077-16	Fisher Scientific	Plastic	2oz	2					
Premier Rotaclone	--	696004	Meridian Bioscience	Kit	--	16	12/5/97	1/2/2002	No	No	No

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2005 Chemical Inventory: Virology Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Premier Toxins A and B	--	616096	Meridian Bioscience	Kit	--	42	12/29/99	3/4/2002	No	No	No
Reagent alcohol 75%	--	--	Solutions	Metal	18L	2	10/19/04	10/19/04	No	No	No
RSV Control Slides	--	QRS-9002	Bion	Pack	--	20					
RSV Reagent	--	B1029-87G	Mar Dx Diagnostics	Plastic	--	3	7/31/2002	7/31/2002	Mercury compound	No	Thimerosal 0.1%
Satin Stainless Steel Cleaner and Polish	--	U17530	AllStar Unisource	Metal aerosol	15oz	1	7/1/02	7/1/02	No	No	No
Self-sealing 12"x18" sterilization pouch	--		Crosstex	Glass	tube	1					
Sheila Shine Polish and Sufrace Preservative	--	3259	Sheila Shine	Metal	1gal	1	1/31/02	1/31/02	Perchloroethylene	No	No
Sodium bicarbonate 7.5% solution	--	9330	Irvine Scientific	Plastic	125mL	5	10/19/89	10/19/89	No	No	No
Sodium hypochlorite (bleach)	Bleach	--	Filled from stock	Plastic	500mL	5	Sigma: 4/15/04	Sigma: 4/15/04	No	No	No
Sputolysin	--	--	Solutions	Plastic	1L	3	9/12/04	9/12/04	No	No	No
Syscheck	--	301078, 305220	--	[illegible]	--	3					
Syscheck	--	312383	--	Plastic	3mL	1					
TM Bura	--	--	Meridian Bioscience	Plastic	--	1					
Toxin EIA A&B	--	14-910-121	Fisher	Pack	--	110					
Trypsin EDTA 1x solution	--	9341	Irvine Scientific	Plastic	--	15	11/4/1992	11/4/1992	NA	NA	NA
Trypsin TPCK	--	T8802	Sigma	Plastic	--	1	9/1/2002	9/1/2002	No	No	No
Vacuum Grease Silicone	--	335148	Beckman Coulter	Plastic	1oz	1	7/19/00	7/19/00	No	No	No
Vesphene II SE	--	6461-08	Steris	Plastic	1gal	2	6/27/02	6/27/02	No	No	No
Vionex Antimicrobial Liquid Soap	--	25128	Metrex Research, Viro Research International	Plastic	1gal	2	10/2/03	10/2/03	No	No	No
Vionex Healthcare Personal Handwash	--	10-1500	Metrex Research	Plastic	1gal	1	10/2/03	10/2/03	No	No	No
VZV Reagents	--	5094	Chemicon	Plastic	--	25	11/1/2002	11/1/2002	No	No	No
Yellow blank single ply with permanent adhesive	--	TXP-2	Time Med	Rolls	--	24					

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DISCLAIMER

If unable to locate MSDS for a material, please contact the Solutions department at extension 6840 to obtain MSDS from their Master Files.

For after-hours, contact Security at extension 6562 to gain access to the Solutions department and obtain MSDS from Master Files (green binders above work bench).

KAISER PERMANENTE®
Regional Reference Laboratories
11668 Sherman Way, North Hollywood, CA 91605

Environmental Health and Safety
2004 Chemical Inventory: Housekeeping/Maintenance Materials
Sorted Alphabetically by Material Name

Material Name	Synonyms	Cat. #	Manufacturer	MSDS Issue Date	MSDS Revision Date	Prop 65 Contents
21 Glass Cleaner Concentrate	Glass cleaner	--	Waxie	11/18/1992	8/17/1998	No
Accent Plus Amino Lotion	Lotion	61048202	Ecolab/Huntington Skin Care	11/5/1998	--	No
Accent Plus Skin Cleanser	Skin cleanser	61048662	Ecolab/Huntington Skin Care	2/2/2001	--	No
Allstar Cinch NRS No-Rinse Stripper	Stripper	U17475	Unisource/GA Pacific	6/24/2002	6/24/2002	No
Allstar Gum Solu Gum and Label Remover	Adhesive remover	U17852	Unisource/GA Pacific	7/1/2002	7/1/2002	No
Allstar Satin Cleaning Solution	Stainless steel cleaner and polish	U17530	Unisource/GA Pacific	6/12/2003	6/12/2003	No
Bacti-Stat Healthcare Personnel Hand Wash	Hand soap	61048722	Ecolab/Huntington Skin Care	3/20/2001	--	No
Bleach, Daybright	Bleach	--	Unisource/Kik International	10/4/2000	10/4/2000	No
Butcher's Speedball Power Cleaner	Cleaner	4043110	The Butcher Company	6/25/2003	7/15/2003	No
Caltech Dispatch Hospital Stainless and Plastic Cleaner Disinfectant with Bleach (5500 ppm NaCl)	Cleaner	68965	Caltech	6/4/2004	6/4/2004	No
Cida-Steryl 28 Long-Life Activated Dialdehyde	Gluteraldehyde sterilant	102327E	Ecolab/Huntington Labs	6/8/1999	6/8/1999	No
Comet Disinfectant Cleanser with Chlorinol	Comet/Detergent	--	Procter and Gamble	2/1/2000	6/1/2001	Yes
Erado-Sol	--	207	Cambridge Diagnostic Products	10/1/2003	10/1/2003	No
Flex 80 Dehydration Specimen Management System	Dehydrant	8301R	Richard-Allan Scientific	6/1/1995	9/1/1991	No
Fresh Apple Odor Counteractant Liquid Concentrate	Apple cleaner	162099	Waxie	6/1/1988	5/1/1995	No
Germa-Care Lotion Skin Cleanser	Lotion	61048522	Ecolab/Huntington Skin Care	2/12/2004	--	No

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2004 Chemical Inventory: Housekeeping/Maintenance Materials

Sorted Alphabetically by Material Name

Material Name	Synonyms	Cat. #	Manufacturer	MSDS Issue Date	MSDS Revision Date	Prop 65 Contents
Housekeeper All-Surface Cleaner	Housekeeper cleaner	--	Waxie	6/23/1993	7/13/2000	No
Isopropanol, 70%	Alcohol	--	Solutions	8/18/2004	8/18/2004	No
Keri Fast-Absorbing Lotion	Lotion	00239	Bristol-Myers Squibb	2/18/2003	2/18/2003	No
Lysol Brand II Disinfectant Spray, Original Scent	Lysol disinfectant	36241-04675-07	Lysol/Reckitt Benckiser	8/8/2002	8/8/2002	No
Plexiglass Plus Cleaner	Cleaner	870040	Waxie	8/17/1990	1/27/1999	No
Sheila Shine Liquid	Polishe and surface preservative	3259	Sheila Shine	1/31/2002	1/31/2002	Yes
Time Saver White Glove Hand Soap	Hand soap	1901	Time Products Inc.	3/17/1995	10/27/1995	No
Twister Power Cleaner/ Degreaser	Cleaner	2637	National Sanitary Supply	8/28/1997	2/8/1999	No
Vacuum grease silicone	Lubricant	335148	Beckman Coulter	7/19/2000	7/19/2000	No
Vexal Plus Heavy Duty Floor Cleaner and Traction Treatment	Floor cleaner	04532	Johnson Diversey	9/25/2002	2/6/2003	No
Vionex Antimicrobial Liquid Soap	--	25128	Metrex Research	10/2/2003	10/2/2003	No
Windex Glass Cleaner with Ammonia	Glass cleaner	X227WD047	Drackett Professional/ S.C. Johnson	4/8/2003	4/8/2003	No
Woodside All-Surface Polish	Polisher	--	Waxie	6/23/1993	1/21/1999	No
Zep Calcium, Lime, and Rust Stain Remover	Stain remover	HDRUST32	Zep	3/26/2002	3/26/2002	No
Zepynamic A Hospital Disinfectant Deodorant	Disinfectant	--	Zep	6/16/1992	10/2/2000	Yes

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Product: 950321 WAXIE 21 GLASS CLEANER (12/CS)
Emergency Phone # (800) 255-3924

Effective : 08/17/98
Supersedes: 11/18/92
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION I-PRODUCT IDENTIFICATION ***

******* MANUFACTURER *******
GENLABS
PO BOX 1697

CHINO, CA 91708-/10
(909) 591-8451

****** DISTRIBUTED BY ******
WAXIE SANITARY SUPPLY
Corporate Headquarters
9353 Waxie Way
San Diego, CA 92123
(858) 292-8111
Tom Seaton
Director of Product Management

HAZARD RATING	HMIS	NFPA
Health :	not available	1 Slight
Flammability :	not available	0 Insignificant
Reactivity :	not available	0 Insignificant

*** SECTION II-HAZARDOUS INGREDIENTS/IDENTITY INFORMATION ***

CAS #	INGREDIENTS	WEIGHT %
111-76-2	{SARA,PA,NJ,MA} 2-Butoxyethanol (EGBE)	
	EXPOSURE LIMIT : OSHA PEL - 25 ppm.	
	: OSHA STEL - 120mg/m3/SKIN.	
	: ACGIH TLV - 25 ppm.	
	: ACGIH STEL - 121mg/m3/SKIN	
1336-21-6	{PA,NJ,MA} Ammonium Hydroxide	
	EXPOSURE LIMIT : 25 ppm ACGIH TWA	
	: 25 ppm OSHA PEL	
	: 35 ppm ACGIH STEL	
	: 35 ppm OSHA STEL	
	: (Ammonia)	
67-63-0	Isopropyl Alcohol	
	EXPOSURE LIMIT : -	
	: OSHA PEL - 400 ppm (980mg/m3)	
	: OSHA STEL - 500 ppm (1225mg/m3)	
	: ACGIH TLV - 400ppm (983mg/m3)	
	: ACGIH STEL - 500 ppm (1230mg/m3)	

See Regulatory Information (Section XII)
for explanation of bracketed information.

*** SECTION III-PHYSICAL DATA ***

APPEARANCE/ODOR.....: Blue, Ammonia Odor
SPECIFIC GRAVITY.....: .990
VAPOR PRESSURE - (mm Hg).....: Not Tested
PERCENT VOLATILE BY VOLUME (%)....:
SOLUBILITY IN WATER.....: 100%
VAPOR DENSITY (Air=1).....: Not Tested
FREEZING POINT (*F).....:
BOILING POINT (*F).....: >212* deg F
ph.....: 10.0 - 11.0
EVAPORATION RATE (Butyl Acetate=1): Not Tested
VOC.....: 59.4 g/L
THEORETICAL VOC (lb/gal).....:

Product: 950321 WAXIE 21 GLASS CLEANER (12/CS)
Emergency Phone # (800) 255-3924

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*** MATERIAL SAFETY DATA SHEET ***

*** SECTION III-PHYSICAL DATA ***

*** SECTION IV-FIRE AND EXPLOSION INFORMATION ***

FLASH POINT (*F) (Method Used):
>212 deg F.
FLAMMABLE LIMITS:
Not Tested. LEL / UEL: None
EXTINGUISHING MEDIA:
None
SPECIAL FIREFIGHTING PROCEDURES:
None
UNUSUAL FIRE AND EXPLOSION HAZARDS:
None

*** SECTION V-HEALTH HAZARD DATA ***

PRIMARY ROUTE OF ENTRY:
Inhalation, Skin, Ingestion
SIGNS AND SYMPTOMS:
EYES: Burning Sensation.
SKIN: Irritant.
INGESTION: Irritatant, Nausea.
INHALATION: Irritation.
FIRST AID PROCEDURES:
EYES: Flush with water for 15 minutes. If irritation persists, call physician.
SKIN: Wash off with soap and water.
INGESTION: Drink large amounts of water, call physician.
INHALATION: Get person to fresh air, If unconscious, Call Physician.
MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:
Same as signs and symptoms of over exposure.

*** SECTION VI-REACTIVITY DATA ***

STABILITY:
Stable.
STABILITY-CONDITIONS TO AVOID:
None.
INCOMPATIBILITY:
Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO2
HAZARDOUS POLYMERIZATION:
None.
HAZARDOUS POLYMERIZATION-CONDITIONS TO AVOID:
None.

*** SECTION VII-SPILL OR LEAK PROCEDURES ***

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Soak up with inert, absorbant material. Scoop up and place in a proper waste disposal container.
'ASTE DISPOSAL INFORMATION:

Product: 950321 WAXIE 21 GLASS CLEANER (12/CS)
Emergency Phone # (800) 255-3924

Effective : 08/17/98
Supersedes: 11/18/92
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION VII-SPILL OR LEAK PROCEDURES ***

Dispose of in accordance with state and local regulations.

*** SECTION VIII-SPECIAL PROTECTION INFORMATION ***

RESPIRATORY PROTECTION:

Open all doors and windows. If there is an exposure, and it is above the TLV or PEL, a NIOSH approved respirator equipped for the exposure or suitable respiratory protection per 29 CRF 1910.134, is required.

VENTILATION:

Local Exhaust: If Available.
Mechanical: If Available.

PROTECTIVE GLOVES:

Rubber or plastic, chemical resistant

EYE PROTECTION:

Glasses/Goggles

OTHER PROTECTIVE MEASURES:

Use common sense and care around chemicals. Never mix chemicals. Consult your supervisor for other practices. All practices depend on your specific business. Directions for use are normally found on label which will dictate engineering and control measures.

*** SECTION IX-SPECIAL PRECAUTIONS ***

PRECAUTIONARY LABELING:

KEEP OUT OF REACH OF CHILDREN. Follow directions on the container for proper use of this product.

OTHER HANDLING AND STORAGE CONDITIONS:

Store in a cool, dry place, out of direct sunlight. Do not freeze, less than or equal to 32 deg F, or heat above 110 deg F.

*** SECTION X-ADDITIONAL INFORMATION ***

ADDITIONAL INFORMATION:

Note: All chemicals incorporated into this product are found on the TSCA inventory list.
2-Butoxy Ethanol and Ammonia Hydroxide are SARA 313 Chemicals.

*** SECTION XI-TRANSPORTATION INFORMATION ***

DOT CLASS:

DOT #:
None

SHIPPING NAME:

DOT NOTES:

*** SECTION XII-REGULATORY INFORMATION ***

Note: Genlabs believes the data set forth are accurate, Genlabs makes no warranty with respects thereto and disclaims all liability for reliance thereon. Such data are offered solely for consideration, investigation and verification. Also, the data set forth is for the concentrated finished product.

Product: 950321 WAXIE 21 GLASS CLEANER (12/CS)
Emergency Phone # (800) 255-3924

Effective : 08/17/98
Supersedes: 11/18/92
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION XII-REGULATORY INFORMATION ***

These ingredients are subject to the reporting requirements under the Massachusetts Hazardous Substance List

.

These ingredients are subject to the reporting requirements under the New Jersey Right to Know Hazardous Substance List

.

These ingredients are subject to the reporting requirements under the Pennsylvania Hazardous Substance List

.

These ingredients are subject to the reporting requirements under the Superfund Amendments and Reauthorization Act of 1986 Title III, Section 313 and 40 CFR Part 372

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920827-07 MATERIAL SAFETY DATA SHEET

MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-651-222-5352

Ecolab Inc. Healthcare Division
370 Wabasha Street
St. Paul MN 55102
Product Information: 1-800-332-6522 Issue Date: November 5, 1998

1.0 IDENTIFICATION /

1.1 Product Name: ACCENT PLUS AMINO LOTION
1.2 Product Type: Liquid Skin Lotion
1.3 Hazard Rating: Health - 0 Fire - 0 Reactivity - 0

2.0 HAZARDOUS COMPONENTS /

2.1 This product is not considered hazardous according to the criteria of 29 CFR 1910.1200. It does not contain any substance listed in SARA 313. It is not a DOT hazardous material.

3.0 PHYSICAL DATA /

3.1 Appearance: White Lotion; apple fragrance
3.2 Solubility in Water: 90%
3.3 pH: 6.5 - 7.5 (100%)
3.4 Initial Boiling Point: > 212 deg F
3.5 Specific Gravity: 0.982 @ 68 deg F

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: Do not mix with anything else. Use according to label directions.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup and Disposal: Rinse small amounts to the sanitary sewer drain with plenty of water; mop up spills and rinse area thoroughly with water.

Product: ACCENT PLUS AMINO LOTION
Ecolab Inc. Healthcare Division
MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

7.0 HEALTH HAZARD DATA / CAUTION

7.1 Effects of Overexposure to Concentrate:
Eyes: May cause minor irritation.
If Swallowed: May cause irritation, nausea, stomach distress.

8.0 FIRST AID /

8.1 Eyes: Flush immediately with plenty of cool running water. Remove contact lenses, if used, and flush again.
8.2 If Swallowed: Rinse mouth; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an unconscious person.

IF IRRITATION OR DISCOMFORT PERSISTS, CALL A PHYSICIAN.

9.0 PROTECTIVE MEASURES /

9.1 No requirements beyond standard industrial hygiene practices.

.0.0 ADDITIONAL INFORMATION/PRECAUTIONS /

10.1 Purpose of 11/05/98 issue: QC and editorial update.

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

920820-01 MATERIAL SAFETY DATA SHEET

MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-651-222-5352

Ecolab Inc. Healthcare Division
370 Wabasha Street
St. Paul MN 55102
Product Information: 1-800-332-6522 Issue Date: February 2, 2001

1.0 IDENTIFICATION /

1.1 Product Name: ACCENT PLUS SKIN CLEANSER
1.2 Product Type: Liquid Skin Cleanser
1.3 Hazard Rating: Health: 1 Fire: 0 Reactivity: 0

Substances Subject to SARA 313 Reporting Are Indicated by "#"

2.0 HAZARDOUS COMPONENTS /

	CAS No.	%	PEL (in mg/m3)	TWA (in mg/m3)
2.1 Anionic and Amphoteric surfactants	mixture	5-20	No	No
2.2 Ethanol (ethyl alcohol)	64-17-5	1-5	1900	1880

PEL = OSHA 8 hour average in air TWA = ACGIH 8 hour average in air

3.0 PHYSICAL DATA /

3.1 Appearance: Pearly white liquid; baby powder fragrance
3.2 Solubility in Water: Mixes with water in all proportions
3.3 pH: 5.9 - 6.9 (at 100%)
3.4 Initial Boiling Point: > 212 deg F / 100 deg C
3.5 Specific Gravity: 1.015 @ 77 deg F / 25 deg C

.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None, does not support combustion.
4.2 Fire Fighting Methods: Use method appropriate for surrounding fire.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: Do not mix with other chemicals. Use standard hygiene practices to maintain product integrity.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup and Disposal: Rinse small amounts to the sanitary sewer drain with plenty of water; mop up spills and rinse area thoroughly with water.

7.0 HEALTH HAZARD DATA / CAUTION

7.1 Effects of Overexposure to Concentrate:
Eyes: Causes irritation.
If Swallowed: May cause irritation, nausea, stomach distress.

8.0 FIRST AID /

8.1 Eyes: Flush with plenty of cool running water. Remove contact

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lenses, if used, and flush again.

8.2 If Swallowed: Rinse mouth; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an unconscious person.

IF IRRITATION OR DISCOMFORT PERSISTS, CALL A PHYSICIAN.

9.0 PROTECTIVE MEASURES /

9.1 FOR CONCENTRATE
No protective equipment is necessary under normal use conditions.

10.0 ADDITIONAL INFORMATION /

10.1 Purpose of 2/2/2001 issue: QC and editorial update. Replaces December 2, 1996 issue.

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND DISTRIBUTOR'S INFORMATION

NFPA Rating: Health-2; Flammability-0; Reactivity-0; Special- COR

HMIS Rating: Health-2; Flammability-0; Reactivity-0; Personal Protection-B

Manufactured For: **UNISOURCE WORLDWIDE, INC.**
Address: 133 Peachtree St. NE.
Address: Atlanta, GA 30303

DOT Hazard Classification:
CORROSIVE LIQUID, ORGANIC, BASIC, N.O.S., 8
(When inner container is 1 gallon or smaller: Consumer Commodity, ORM-D)
Identity (trade name as used on label):
ALLSTAR CINCH NRS (U17455, U17474, U17475, U17476)

Phone: **800-UNISOURCE**

MSDS Number: B00812 Revision - 4

Emergency Response Number: 1-888-660-6737

NOTICE: JUDGMENT BASED ON INDIRECT TEST DATA

Date Prepared: 06/24/02 Prepared By: RC/IB
Information Calls: (770)422-2071

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	SARA III LIST	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
2-BUTOXYETHANOL	111-76-2	Yes	25(skin)	25(skin)	d
MONOETHANOLAMINE	141-43-5	No	3(TWA)	3(TWA)	d
				6(STEL)	

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: 100°C
Specific Gravity (H2O=1): 0.995
Vapor Pressure: PSIG @ 70°F (Aerosols): N/A
Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): N/D
Vapor Density (Air = 1): N/D
Evaporation Rate (water = 1): 1.0
Solubility in Water: 100%
Water Reactive: No
Appearance and Odor: Colorless liquid with a butyl and slightly fresh odor.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) N/A

Auto Ignition Temperature N/A

Flammability Limits in Air by % in Volume: % LEL: N/A % UEL: N/A

FLASH POINT AND METHOD USED (non-aerosols): None to boiling
EXTINGUISHER MEDIA: Any media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: Cool fire exposed containers with water spray.

Unusual Fire & Explosion Hazards: Residue remaining after water has evaporated is combustible and can be ignited.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY [X] STABLE [ ] UNSTABLE

HAZARDOUS POLYMERIZATION [ ] WILL [X] WILL NOT OCCUR

Incompatibility (Mat. to avoid): Any material not compatible with water.

Conditions to Avoid: None

Hazardous Decomposition Products: Oxides of carbon and nitrogen, unidentified organic compounds.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: [ ] INHALATION [ ] INGESTION [X] SKIN ABSORPTION [X] EYE [ ] NOT HAZARDOUS

ACUTE EFFECTS: Symptoms of Systemic Overexposure: Headache, nausea, vomiting, drowsiness, unconsciousness.

Inhalation: Vapors may be irritating in high concentrations. Prolonged breathing of non-irritating concentrations may damage liver and/or kidneys.

Eye Contact: Irritant. Prolonged contact may cause chemical burns.

Skin Contact: Mildly irritating. Prolonged or widespread skin contact may result in absorption of potentially harmful amounts of material.

Ingestion: May cause chemical burns of the mouth, throat, esophagus and stomach.

CHRONIC EFFECTS: May possibly result in damage to the liver, kidneys, lungs and red blood cells.

Medical Conditions Generally Aggravated by Exposure: Asthma, inflammatory or fibrotic pulmonary disease, existing dermatitis.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Immediately flush with water for 15 minutes. If irritation persists, get medical attention.

Skin Contact: Immediately remove contaminated clothing and flush skin with water.

Inhalation: Remove to fresh air.

Ingestion: DO NOT INDUCE VOMITING. Drink 3 to 4 glasses of water. Get immediate medical attention.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): None needed under normal conditions.

Protective Gloves: Impervious.

Eye Protection: Chemical goggles.

Ventilation Requirements: Normal room ventilation is usually adequate.

Other Protective Clothing & Equipment: Impervious clothing as needed to prevent skin contact. Eyewash station and safety shower.

Hygienic Work Practices: Do not eat, drink or smoke in work area. Wash hands after handling.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Neutralize spilled material with acetic acid & soak up in an inert absorbent. Dispose of in a legal manner.

Waste Disposal Methods: Dispose of in accordance with all local, state and federal regulations.

Precautions To Be Taken In Handling & Storage: Store in original shipping containers. Keep closed when not in use. Protect from extreme heat and cold.

Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN. Read & follow label directions.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND DISTRIBUTOR'S INFORMATION

NFPA Rating: Health-1; Flammability-2; Reactivity-0; Special- -

HMIS Rating: Health-1; Flammability-2; Reactivity-0; Personal Protection-B

Manufactured For: **UNISOURCE WORLDWIDE, INC.**
Address: 6600 Governors Lake Pkwy
Norcross, Ga. 30071

DOT Hazard Classification: FLAMMABLE LIQUID, N.O.S. 3
(When inner container is 1 gallon or smaller: CONSUMER COMMODITY, ORM-D)

Identity (trade name as used on label):
ALLSTAR GUM SOLV
(U17801, U17852)

Phone: **800-UNISOURCE**

Emergency Response Number: 1-888-660-6737

NOTICE: JUDGEMENT BASED ON INDIRECT TEST DATA

MSDS Number: B00180 Revision - 2

Date Prepared: 7/01//02 Prepared By: IB

Information Calls: (770)422-2071

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	SARA III LIST	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
MONOCYCLIC TERPENE	5989-27-5	No	N/E	N/E	d

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: < 212°F

Specific Gravity (H2O=1): 0.86

Vapor Pressure: PSIG @ 70°F (Aerosols): N/A

Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): <17 mm Hg @20°F

Vapor Density (Air = 1): not determined

Evaporation Rate (water = 1): <1

Solubility in Water: emulsifies

Water Reactive: No

Appearance and Odor: Clear, yellow liquid with citrus odor.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) N/A

Auto Ignition Temperature N/A

Flammability Limits in Air by % in Volume: % LEL: NE % UEL: NE

FLASH POINT AND METHOD USED (non-aerosols): **115°F** (TCC)

SPECIAL FIRE FIGHTING PROCEDURES: Use water fog to cool containers to prevent rupturing.

EXTINGUISHER MEDIA: Water spray or fog, foam, dry chemical or CO2. Do not use direct water stream.

Unusual Fire & Explosion Hazards: None known.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY [X] STABLE [ ] UNSTABLE

HAZARDOUS POLYMERIZATION [X] MAY [ ] WILL NOT OCCUR

Incompatibility (Mat. to avoid): Strong oxidizing agents and strong acids.

Conditions to Avoid: Do not mix with acids. Do not allow contact with sulfur containing materials. Avoid polymerization catalysts such as aluminum chloride.

Hazardous Decomposition Products: CO, CO2 and oxides of sulfur and nitrogen.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: [ ] INHALATION [ ] INGESTION [X] SKIN ABSORPTION [X] EYE [ ] NOT HAZARDOUS

ACUTE EFFECTS

Inhalation: Can cause headache, dizziness.

Eye Contact: Irritating

Skin Contact: Can cause skin defatting.

Ingestion: Gastrointestinal irritation, nausea. Chemical pneumonitis if aspirated into lungs.

CHRONIC EFFECTS: None known. Note: Prolonged and repeated exposure has resulted temporary reduction of sensory perception by surface numbing of skin in some individuals.

Medical Conditions Generally Aggravated by Exposure: Pre-existing dermatitis.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush with cool water for 15 minutes. If irritation persists, get medical attention.

Skin Contact: Wash with soap and water for 15 minutes. If irritation develops and persists, get medical attention.

Inhalation: Remove to fresh air.

Ingestion: DO NOT INDUCE VOMITING. Drink large volume of milk or water. Get immediate medical attention.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): Not normally required. If vapor level becomes high, use respirator approved by NIOSH for organic vapors.

Protective Gloves: Chemical resistant.

Eye Protection: Safety glasses (or splash goggles if appropriate for application.)

Ventilation Requirements: Local exhaust should be adequate.

Other Protective Clothing & Equipment: Usually not needed.

Hygienic Work Practices: Do not eat, drink or smoke in work area. Wash hands after handling.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Absorb on inert material & collect in suitable containers for disposal. Spills may be diluted 1:50 with water & washed down sanitary sewers.

Waste Disposal Methods: Dispose of in accordance with all local, state and federal regulations.

Precautions To Be Taken In Handling & Storage: Store in original shipping containers. Do not store near heat, sparks or open flame. Keep closed when not in use. Protect from extreme heat and cold.

Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN. Read & follow label directions. Do not allow fish or other wildlife to be directly exposed to undiluted product. Dilute 1:50 or more with water before flushing to fish bearing waterways.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND DISTRIBUTOR'S INFORMATION

NFPA Rating: Health-2; Flammability-2; Reactivity-0; Special-0

HMIS Rating: Health-2; Flammability-2; Reactivity-0; Personal Protection-B

Manufactured For: **UNISOURCE WORLDWIDE, INC.**
Address: 6600 Governors Lake Pkwy.
Norcross, GA 30071

DOT Hazard Classification: ORM-D
Identity (trade name as used on label):
ALLSTAR SATIN (U17530)

Phone: **800-UNISOURCE**

MSDS Number: A00141 Revision- 13

EMERGENCY RESPONSE NUMBER: 1-888-660-6737
NOTICE: JUDGMENT BASED ON INDIRECT TEST DATA

Date Prepared: 06/12/03 Prepared By: LF/IB
Information Calls: (770)422-2071

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	SARA III LIST	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
PETROLEUM DISTILLATE	64742-54-5	Yes	5mg\M3	5mg\M3	d
PETROLEUM DISTILLATE	8052-41-3	No	100	100	d
ISOBUTANE / PROPANE BLEND	75-28-5	No	800	800	d
	74-98-6	No	1000	1000	d

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: N/A
Specific Gravity (H2O=1): Concentrate Only = .856
Vapor Pressure: PSIG @ 70°F (Aerosols): Max.60
Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): N/A
Vapor Density (Air = 1): N/E
Evaporation Rate (= 1): N/E
Solubility in Water: Insoluble
Water Reactive: No
Appearance and Odor: Clear liquid, lemon fragrance.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) **FLAMMABLE** >18 Inches

Auto Ignition Temperature N/E

Flammability Limits in Air by % in Volume: % LEL: N/E % UEL: N/E

FLASH POINT AND METHOD USED (non-aerosols): N/A
SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus.
EXTINGUISHER MEDIA: Foam, dry chemical, carbon dioxide.
Unusual Fire & Explosion Hazards: Do not expose aerosols to temperatures above 130°F or the container may rupture.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY [X] STABLE [ ] UNSTABLE
HAZARDOUS POLYMERIZATION [ ] WILL [X] WILL NOT OCCUR
Incompatibility (Mat. to avoid): Strong oxidizers.
Conditions to Avoid: Open flame, welding arcs, heat, sparks.
Hazardous Decomposition Products: CO, CO2.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: [X] INHALATION [ ] INGESTION [X] SKIN ABSORPTION [ ] EYE [ ] NOT HAZARDOUS

ACUTE EFFECTS

Inhalation: Excessive inhalation of vapors can be harmful and may cause headache, dizziness, asphyxia, anesthetic effects and possible unconsciousness.

Eye Contact: Mild irritation.
Skin Contact: Mild irritation due to defatting of the skin.
Ingestion: Possible chemical pneumonitis if aspirated into lungs. Nausea.
CHRONIC EFFECTS: (Effects due to excessive exposure to the raw materials of this mixture) May cause cardiac abnormality, liver abnormalities, lung and kidney damage.
Medical Conditions Generally Aggravated by Exposure: May aggravate existing eye, skin, or upper respiratory conditions.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush with water for 15 minutes. If irritated, seek medical attention.
Skin Contact: Wash with soap and water. If irritated, seek medical attention.
Inhalation: Remove to fresh air. Resuscitate if necessary. Get medical attention.
Ingestion: DO NOT INDUCE VOMITING. Drink two large glasses of water. Get immediate medical attention.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): If vapor concentration exceeds TLV, use respirator approved by NIOSH for organic vapor.
Protective Gloves: Polyethylene gloves
Eye Protection: Safety glasses recommended.
Ventilation Requirements: Adequate ventilation to keep vapor concentration below TLV.
Other Protective Clothing & Equipment: Eyewash station if desired.
Hygienic Work Practices: Wash with soap and water before handling food. Remove contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Absorb with suitable medium. Incinerate or landfill according to local, state or Federal regulations. DO NOT FLUSH TO SEWER.
Waste Disposal Methods: Aerosol cans when vented to atmospheric pressure through normal use, pose no disposal hazard.
Precautions To Be Taken In Handling & Storage: Do not puncture or incinerate containers. Do not store at temperatures above 130°F.
Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN. Avoid food contamination. Avoid breathing vapors.Remove ignition sources.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data

920883 MATERIAL SAFETY DATA SHEET

MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-651-222-5352

PROFESSIONAL PRODUCTS ECOLAB INC.
370 WABASHA STREET NORTH
ST. PAUL MN 55102
Product Information: 1-800-247-5362 Issue Date: March 20, 2001

1.0 IDENTIFICATION /

1.1 Product Name: BACTI-STAT
1.2 Product Type: Antibacterial Skin Cleanser
1.3 Hazard Rating: Health: 0 Fire: 0 Reactivity: 0

Substances Subject to SARA 313 Reporting Are Indicated by "#"

2.0 HAZARDOUS COMPONENTS /

		CAS No.	%	PEL (in mg/m3)	TWA (in mg/m3)
2.1	Ethanol (ethyl alcohol)	64-17-5	1-5	1900	1880

2.2 Also contains 0.3% triclosan as the active ingredient.

PEL = OSHA 8 hour average in air TWA = ACGIH 8 hour average in air

3.0 PHYSICAL DATA /

3.1 Appearance: Clear red liquid; fruity fragrance
3.2 Solubility in Water: Mixes with water in all proportions
3.3 pH: 8.4 - 9.4 (at 100%)
3.4 Initial Boiling Point: > 212 deg F / 100 deg C
3.5 Specific Gravity: 1.020 @ 77 deg F / 25 deg C

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None, does not support combustion.
4.2 Fire Fighting Methods: Use method appropriate for surrounding fire.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: Do not mix with other chemicals. Use standard hygiene practices to maintain product integrity.

6.0 SPILL OR LEAK PROCEDURES / USE PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup and Disposal: Rinse small amounts to the sanitary sewer drain with plenty of water; mop up spills and rinse area thoroughly with water.

7.0 HEALTH HAZARD DATA / CAUTION

7.1 Effects of Overexposure to Concentrate:
Eyes: Causes irritation.
If Swallowed: May cause irritation, nausea, stomach distress.

8.0 FIRST AID /

8.1 Eyes: Flush with plenty of cool running water. Remove contact lenses, if used, and flush again.
8.2 If Swallowed: Rinse mouth; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an

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unconscious person.

IF IRRITATION OR DISCOMFORT PERSISTS, CALL A PHYSICIAN.

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0 PROTECTIVE MEASURES

9.1 FOR CONCENTRATE:
No protective equipment is necessary under normal use conditions.

10.0 ADDITIONAL INFORMATION

10.1 Purpose of 3/20/2001 issue: Correct section 2; QC and editorial update. Replaces December 2, 1996 issue.

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

MATERIAL SAFETY DATA SHEET

SECTION 1 -- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME	Daybright Bleach	PACK	6 / 1 gal.
PRODUCT CODE	1100085		

ISSUE DATE	10-04-00

EMERGENCY TELEPHONE NUMBERS

MANUFACTURER	**KIK International**	**Transportation:**	**(800) 255-3924 ***
STREET ADDRESS	**2921 Corder Street**	*** For spill, leak, fire or transport accident emergencies.**	
CITY, STATE, ZIP	**Houston, Texas 77054**	**Product Information:**	**(713) 747-8710**

SECTION 2 -- COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENT			EXPOSURE LIMITS		
* -- (see note below)	CAS No.	% by wt.	OSHA PEL	ACGIH TLV	NIOSH REL
Sodium hypochlorite	7681-52-9	5.00 - 5.60	None (see next entry)	None (see next entry)	None (see next entry)

*** -- Asterisked ingredients are those considered hazardous according to the criteria of 29CFR 1910.1200. Other ingredients are listed for informational purposes to assist emergency medical response personnel.**

SECTION 3 -- HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	**Corrosive; may cause severe skin and eye irritation or chemical burns to broken skin. Vapors extremely irritating to eyes and respiratory tract. Harmful and potentially fatal if swallowed.**
POTENTIAL HEALTH EFFECTS	
INGESTION	Can cause corrosion of mucous membranes, severe esophageal burns and perforation of esophagus or stomach.
INHALATION	Inhalation of vapors can cause bronchial irritation, coughing, difficulty in breathing, nausea and pulmonary edema.
EYE CONTACT	Corrosive to the eyes; may cause severe and permanent damage.
SKIN CONTACT	Severe irritant; contact can produce blistering and eczema.

SECTION 4 -- FIRST AID MEASURES

INGESTION	If swallowed, DO NOT induce vomiting. Immediately drink a large quantity of water. Do not use acidic antidotes or sodium bicarbonate (baking soda). **Call a physician or poison control center immediately.**
INHALATION	If exposed to excessive vapor levels, remove to fresh air and seek medical attention if cough or other symptoms develop.
EYE CONTACT	Immediately flush eye with plenty of cool, running water. Remove contact lenses if applicable, and continue flushing for at least 15 minutes. **Get medical attention immediately.**
SKIN CONTACT	Flush affected skin area with copious amounts of water and wash with soap and water. If irritation develops or persists, get medical attention. Remove clothing and wash before reuse.
NOTE TO PHYSICIAN	Information pertaining to ingestion toxicology, therapy, symptomatology and treatment can be found in Clinical Toxicology of Commercial Products, authored by Gosselin, Smith and Hodge and published by Williams & Wilkins, Baltimore, Maryland. **See listing for Hypochlorite in Therapeutics Index, Section III.**

SECTION 5 -- FIRE FIGHTING MEASURES

FLASH POINT / METHOD	None / N.A.	FLAMMABLE LIMITS	Not flammable or combustible
EXTINGUISHING MEDIA	If involved in a fire, alcohol foam, carbon dioxide, dry chemical or water fog. Use extinguishing media that is appropriate for surrounding fire.		
SPECIAL FIRE FIGHTING PROCEDURES	Avoid fumes from spilled or exposed liquid. Firefighters should wear full protective clothing and OSHA/NIOSH self-contained breathing apparatus. Cool fire-exposed containers with water spray from a safe distance.		
FIRE AND EXPLOSION HAZARDS	Sodium hypochlorite bleach is a strong oxidizing agent and decomposes when heated. Decomposition products may cause containers to explode. Vigorous reactions may occur with organic materials or oxidizable materials, causing fires.		

SECTION 6 -- ACCIDENTAL RELEASE MEASURES

RESPONSE TO SPILLS	Small spills: Dilute product by flooding area with large quantity of water and flush to sanitary sewer. Large spills: Contain run-off by diking with suitable material. Soak up liquid on inert absorbent and transfer to approved container. Prevent spill from entering sewers or waterways.

SECTION 7 -- HANDLING AND STORAGE

HANDLING PRECAUTIONS	Wash after handling and before eating. Use personal protective equipment and wear suitable chemical-resistant clothing. Keep container tightly closed when not in use. Follow label directions closely.
STORAGE PRECAUTIONS	Store upright in a cool (below 85 F), dry, well-ventilated area. Keep away from heat or direct sunlight. Separate from incompatible materials, such as acids, ammonia, soap-based products or organic materials. Protect containers from physical damage. Keep away from children.

SECTION 8 -- EXPOSURE CONTROLS / PERSONAL PROTECTION

HYGIENIC PRACTICES	**Avoid breathing vapors.** Do not store near food stuffs, water or feed. Protect eyes, skin and clothing from contact with this product.
ENGINEERING CONTROLS	Use local ventilation to remove vapors at the source. **Facilities using this product must be equipped with an eyewash station.**

PERSONAL PROTECTIVE EQUIPMENT

X	**RESPIRATOR**	Not normally necessary; use NIOSH approved respirator for concentrated vapors
X	**GOGGLES / FACE SHIELD**	**Required;** goggles should be chemical splash type. Face shield also helpful.
X	**APRON**	Recommended to avoid skin contact and protect clothing from damage
X	**GLOVES**	**Required;** use impervious PVC or Neoprene with long gauntlet
X	**BOOTS**	Recommended to protect shoes and feet when using product for floor cleaning

SECTION 9 -- PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Clear pale yellow liquid	BOILING POINT	212 deg F
ODOR	Chlorine	FREEZING POINT	28 deg F
pH	12.0 - 12.8	VAPOR PRESSURE	17.5 mm Hg @ 20 C
SPECIFIC GRAVITY	1.080	VAPOR DENSITY	Not applicable
SOLUBILITY IN WATER	Complete	EVAPORATION RATE	Not applicable

SECTION 10 -- STABILITY AND REACTIVITY

CHEMICAL STABILITY		**STABLE**	X		**UNSTABLE**	
CONDITIONS TO AVOID	Heat or direct sunlight; temperatures above 85 F. **Do not mix with solutions containing ammonia.**					
INCOMPATIBILITY	Acids, ammonia, ether, urea, oxidizable materials, soaps, oils, greases, phenolic disinfectants and metals (including nickel, copper, tin, aluminum and iron.					
HAZARDOUS PRODUCTS OF DECOMPOSITION	Chlorine gas -- from contact with highly acidic materials. Chloramines -- from contact with ammonia. Polychlorinated phenols -- from contact with phenolic disinfectants.					
POLYMERIZATION		**WILL NOT OCCUR**	X		**MAY OCCUR**	
CONDITIONS TO AVOID	Not applicable					

SECTION 11 -- TOXICOLOGICAL INFORMATION

CARCINOGENICITY

	THIS PRODUCT CONTAINS A KNOWN OR SUSPECTED CARCINOGEN
X	**THIS PRODUCT DOES NOT CONTAIN ANY KNOWN OR ANTICIPATED CARCINOGENS ACCORDING TO THE CRITERIA OF THE NTP ANNUAL REPORT ON CARCINOGENS AND OSHA 29 CFR 1910, Z**

OTHER EFFECTS

ACUTE	Toxicity arises from corrosive activity; stems from oxidizing potency, a function of concentration
CHRONIC	Not determined

SECTION 12 -- ECOLOGICAL INFORMATION

BIODEGRADABILITY		CONSIDERED BIODEGRADABLE	X		NOT BIODEGRADABLE
BOD / COD VALUE	Not established				
ECOTOXICITY	This pesticide is toxic to fish and aquatic organisms. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, ocean, or public waters unless this product is specifically identified and addressed in an NPDS permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact State Water Board or Regional Office of the EPA.				

SECTION 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD	If in accordance with an NPDES permit or approved by local sewage treatment plant authority, small amounts may be flushed to a sanitary sewer with plenty of water. Large amounts of unused product must be disposed of as hazardous waste at an approved hazardous waste management facility.							
RCRA CLASSIFICATION	Hazardous, corrosive D002 (if pH is equal to or greater than 12.5)							
RECYCLE CONTAINER		YES	X		CODE	2 – HDPE		NO

SECTION 14 -- TRANSPORT INFORMATION

DOT CLASSIFICATION		HAZARDOUS			NOT HAZARDOUS	X
DESCRIPTION	Non-Regulated					
DOT HM CODE	None					

SECTION 15 -- REGULATORY INFORMATION

REGULATORY STATUS

X	EPA REGISTERED (UNDER FIFRA)	70271-3
	FDA REGULATED	
	KOSHER	
X	SARA TITLE III MATERIAL	Sodium hydroxide & Sodium hypochlorite (Section 304)
	USDA AUTHORIZED	
X	CANADA WHMIS	Controlled Product, Class E - Corrosive Material

SECTION 16 -- OTHER INFORMATION

NFPA CLASSIFICATION

2	BLUE	HEALTH HAZARD
0	RED	FLAMMABILITY
1	YELLOW	REACTIVITY
OX	WHITE	SPECIAL HAZARD

Information contained in this MSDS refers only to the specific material designated and does not relate to any process or use involving other materials. This information is based on data believed to be reliable, and the Product is intended to be used in a manner that is customary and reasonably foreseeable. Since actual use and handling are beyond our control, no warranty, express or implied, is made and no liability is assumed by KIK International in connection with the use of this information.

BUTCHER'S

MATERIAL SAFETY DATA SHEET

SPEEDBALL Original
Fragrance Power Cleaner

MSDS Ref. No: 4043
Date Prepared: 06/25/2003
Date Revised: 07/15/2003

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME/USE: SPEEDBALL Original Fragrance Power Cleaner

MSDS CODE: 3138611
PRODUCT CODE: 4043320, 4043110, 4043520, 4043550

MANUFACTURER
The Butcher Company
8310 16th St.
Sturtevant, WI 53177-0902

Butcher Telephone Number: 800-225-9475
Emergency Telephone (24 hours): 800-228-5635
CHEMTREC (U.S./Can.): 800-424-9300
CHEMTREC (Int'l): +1 703-527-3887

2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT(S)	CAS#	% BY WEIGHT
2-Butoxyethanol	111-76-2	5 - 7
Ethanolamine	141-43-5	1 - 3
Nonyl phenol ethoxylate	9016-45-9	1 - 1.5

See Section 8 for Exposure Limits *NA - Not Applicable*

OSHA REGULATORY STATUS: This product is classified as hazardous under OSHA regulations.

WHMIS CLASS: Class D- Division 2B

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Clear, Green Liquid . Mint Odor. Causes Eye Irritation.

POTENTIAL HEALTH EFFECTS *(See Section 11 for Toxicological Information)*

PRIMARY ROUTE(s) OF EXPOSURE: X Eye X Skin Contact X Skin Absorption X Inhalation X Ingestion

EFFECTS OF ACUTE EXPOSURE

EYES: Causes eye irritation. Symptoms may include redness and pain.

SKIN: May cause mild skin irritation. Symptoms may include redness.

INHALATION: High concentrations of vapor or mist may cause nose, throat and respiratory tract irritation. Symptoms may include coughing.

INGESTION: May cause mouth, throat and stomach irritation. Symptoms may include nausea, vomiting and diarrhea. May also cause central nervous system effects including headache, dizziness and weakness.

EFFECTS OF CHRONIC EXPOSURE: Prolonged or repeated contact may cause skin irritation.

MEDICAL CONDITIONS AGGRAVATED: May aggravate pre-existing eye, skin and respiratory conditions.

4. FIRST AID MEASURES

EYES: Flush eyes with plenty of water while holding eyelids apart. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Do not put any medication in the victim's eyes unless instructed by a physician. Get medical attention.

SKIN: Flush with water, then wash with soap and water. Remove saturated clothing. Get medical attention if irritation develops.

INHALATION: Remove to fresh air. If not breathing, give respiration; if breathing is difficult, give oxygen (by trained personnel only). Get medical attention if symptoms persist.

INGESTION: Do not induce vomiting. Drink large quantities of water. Get immediate medical attention. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

FLASH POINT AND METHOD: > 93°C (200°F)TCC

FLAMMABLE LIMITS: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire.

HAZARDOUS COMBUSTION PRODUCTS: Normal products of combustion (carbon monoxide and carbon dioxide).

FIRE AND EXPLOSION HAZARDS: None known.

FIRE FIGHTING INSTRUCTIONS: This product is not flammable. As in any fire, MSHA/NIOSH approved self-contained breathing apparatus (SCBA) and full protective gear should be worn.

6. ACCIDENTAL RELEASE MEASURES

See Section 8, Exposure Controls/Personal Protection and Section 3, Hazard Identification. Floors may be slippery. Use care to avoid falling. Contain and isolate spill. Keep non-essential personnel from entering spill area. Use mop, absorbent, or wet vacuum to collect material for proper disposal. Rinse area with water.

7. HANDLING AND STORAGE

HANDLING: Follow label use directions. Do not mix with other chemicals unless instructed by label directions. Avoid contact with eyes and skin. Wash thoroughly after handling. Remove saturated clothing. Wash clothing and equipment before reuse.

STORAGE: Keep container closed when not in use. Store away from incompatible materials. (See Section 10, Stability and Reactivity).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE: Where eye contact is possible, wear safety glasses with side shields or chemical splash goggles (ANSI Z87.1 approved).

SKIN: Where prolonged or repeated contact is possible, chemical-resistant clothing (e.g., gloves) is recommended.

RESPIRATORY: No respiratory protection is required if ventilation is adequate.

ENGINEERING CONTROLS: Good general room ventilation is expected to be adequate. If user operations generate vapor or mist, ventilation should be used to keep airborne concentrations below exposure limits.

EXPOSURE LIMITS:

INGREDIENT(S)	OSHA PEL/STEL	ACGIH TLV/STEL
2-Butoxyethanol	25 ppm 120 mg/m3 / Skin	25 ppm 121 mg/m3 / Skin
Ethanolamine	3 ppm 8 mg/m3 / 6 ppm 15 mg/m3	3 ppm 7.5 mg/m3 / 6 ppm 15 mg/m3
Nonyl phenol ethoxylate	NA	NA

NA - Not Available

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
ODOR: Mint
APPEARANCE: Clear, Green
pH: 11.9 to 12.7
PERCENT VOLATILE BY WEIGHT: 98
VAPOR PRESSURE: Not Available
VAPOR DENSITY: Not Available
BOILING POINT: Not Available
FREEZING/MELTING POINT: Not Available
SOLUBILITY IN WATER: Complete
EVAPORATION RATE: Not Available
SPECIFIC GRAVITY: 1.00
VISCOSITY: Water Thin
OCTANOL/WATER PARTITION COEFFICIENT: Not Available
ODOR THRESHOLD: Not Available

10. STABILITY AND REACTIVITY

STABILITY (CONDITIONS TO AVOID): Stable.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: None known.

INCOMPATIBLE MATERIALS: Strong acids (e.g., hydrochloric) and oxidizers (e.g., bleach).

11. TOXICOLOGICAL INFORMATION

ACUTE DATA: This product is a moderate to severe eye irritant and a mild skin irritant. Based on acute toxicity testing, it is not considered to be toxic by inhalation, ingestion, or skin absorption. Acute overexposure to high concentrations of 2-butoxyethanol by skin absorption, ingestion and inhalation has caused blood, liver and kidney effects in laboratory animals. The following additional data are available for this product and its ingredients:

PRODUCT/INGREDIENT	ORAL LD_{50} (rat)	DERMAL LD_{50} (rabbit)	INHALATION LC_{50} (rat)
SPEEDBALL Original Fragrance Power Cleaner	>5000 mg/kg	>1000 mg/kg	>200 mg/L (1-hr)
2-Butoxyethanol	470 - mg/kg	220 - mg/kg	450 - ppm (4-hr)
Ethanolamine	1720 - mg/kg	1018 - mg/kg	Not Available
Nonyl phenol ethoxylate	2000 - 5000 mg/kg	1000 - 3000 mg/kg	Not Available

SENSITIZATION DATA: No data available.

CHRONIC DATA:

Prolonged overexposure to high concentrations of ethanolamine by inhalation and ingestion has caused liver and kidney effects in laboratory animals. Prolonged overexposure to high concentrations of 2-butoxyethanol by skin absorption, ingestion and inhalation has caused blood, liver and kidney effects in laboratory animals.

REPRODUCTIVE/TERATOGENIC DATA: No data available.

CARCINOGENIC/MUTAGENIC DATA: Not listed as carcinogenic by NTP, IARC, or ACGIH or regulated as a carcinogen by OSHA.

SYNERGISTIC MATERIALS: No data available.

12. ECOLOGICAL INFORMATION

This product is made with all biodegradable detergents. No other data available.

13. DISPOSAL CONSIDERATIONS

Disposal of this material should be in accordance with local, state or provincial and federal regulations. The unused product, as manufactured, is a RCRA hazardous waste (Corrosive-D002) in accordance with 40 CFR 261. The product has not been evaluated by the Toxicity Characteristic Leachate Procedure (TCLP). According to RCRA, it is the responsibility of the waste generator to ensure proper disposal.

14. TRANSPORT INFORMATION

DOT/TDG HAZARDOUS MATERIAL DESCRIPTION: Not regulated

15. REGULATORY INFORMATION

Not meant to be all-inclusive---selected regulations represented.

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Under 40 CFR 370.2, this product meets the following hazard categories: Immediate, Delayed.

313 REPORTABLE INGREDIENTS: 2-Butoxyethanol is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 under the chemical category Glycol Ethers.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: None of the ingredients in this product are reportable under CERCLA.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: This product complies with all TSCA inventory requirements.

USDA (U.S. DEPARTMENT OF AGRICULTURE): This product is authorized for use in federally inspected meat and poultry plants.

MASSACHUSETTS, NEW JERSEY, PENNSYLVANIA RIGHT-TO-KNOW:

INGREDIENT(S)	CAS NO.	STATE LISTING
Water	7732-18-5	Not Listed
2-Butoxyethanol	111-76-2	MA, NJ, PA
Ethanolamine	141-43-5	MA, NJ, PA
Nonyl phenol ethoxylate	9016-45-9	Not Listed

NA - Not Applicable

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Class D-Division 2B, eye irritant; Class D-Division 2B, chronic toxic effects. This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

HMIS RATING

HEALTH	*	2
FLAMMABILITY		0
REACTIVITY		0
PERSONAL PROTECTION		-

NFPA CODES:

APPROVED BY: EH&S/Regulatory Affairs

MSDS STATUS

Revision No: 5

Revision #: 5

This MSDS replaces the June 25, 2003 MSDS. Any changes in information are as follows:
In Section 1
Product Code

APPROVAL DATE: 07/15/2003

The information on this data sheet represents our current data and best opinion as to the proper use in handling of the product under normal foreseeable conditions. Any use of this product which is not in conformance with this data sheet or product label, or which involves using the product in combination with any other product or any other process is the responsibility of the user.

MATERIAL SAFETY DATA SHEET

REVISION DATE: 04JUN04

1. Product Identity

DISPATCH® HOSPITAL CLEANER DISINFECTANT WITH BLEACH

ITEM NUMBER
68963 - 8 oz Pump Spray Bottle
68967 - 22 oz Trigger Spray Bottle
68970 - 32 oz Trigger Spray Bottle
68832 - 32 oz Pull Top Bottle
68973 - 64 oz Refill
68978 - 128 oz Refill
69101 - Singles, Towels
69260 - 60 Piece Soft Pack, Towels

Manufactured by:
Caltech Industries, Inc., 2420 Schuette Road, Midland, MI 48642-5974

2. Key Components

Component	CAS #	%
Sodium Hypochlorite	7681-52-9	<1.0

(Typical Values - Not Specifications)

3. Physical Data

BOILING POINT:.....212°F, 100°C.
VAP PRESSURE:. 17.5 mmHg at 20°C.
VAP DENSITY:.....Not determined.
APPEARANCE: .Clear, colorless solution.
SOLUBILITY IN WATER:..... Completely soluble.
SPECIFIC GRAVITY:..... 1.013-1.017 (25°/25°C)
pH: 12.2
ODOR:..... Slight bleach odor.

4. Fire & Explosion Hazard Data

NFPA HAZARD RATING: 0
FLASH POINT: .....> 101°C
METHOD USED:..... TCC
FLAMMABLE LIMITS:..... LFL/UFL .....Not applicable.
EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire.
SPECIAL FIRE FIGHTING EQUIPMENT & HAZARDS..... None.

5. Reactivity Data

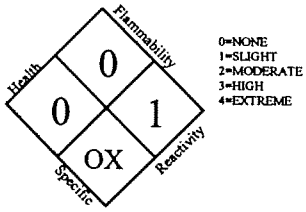
NFPA HAZARD RATING:..... 1
STABILITY (Conditions to Avoid): Stability decreases with heat, light exposure, decreases in pH and contamination with heavy metals, such as nickel, cobalt, copper and iron.
INCOMPATIBILITY (Specific Materials To Avoid): Avoid contact with acid, reducing agents, ammonia, or heavy metals such as nickel, cobalt, copper & iron.
HAZARDOUS DECOMPOSITION PRODUCTS: Chlorine in the presence of acids.
HAZARDOUS POLYMERIZATION: .....Will not occur.

6. Specific Hazards

NFPA HAZARD RATING: ..... OX
Material is basic and an oxidizer. Do not mix with acidic materials such as certain toilet cleaners, ammonia or with formaldehyde.

7. Health Hazard Data

NFPA HAZARD RATING: 0
EYE: May cause moderate irritation.
SKIN CONTACT: Prolonged or repeated exposure not likely to cause significant skin irritation.
INGESTION: May cause gastrointestinal irritation.
INHALATION: No adverse effects are anticipated from inhalation.
CARCINOGENICITY: Not listed as carcinogen by NTP, OSHA or IARC.



NFPA

8. First Aid

EYES: If in eyes, hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eyes. Seek medical attention if irritation persists.
SKIN: No first aid should be needed.
INGESTION: No first aid should be needed.
INHALATION: No first aid should be needed.
NOTE TO PHYSICIAN:.....No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

9. Special Handling Information

VENTILATION: Good general ventilation should be sufficient for most conditions.
RESPIRATORY PROTECTION: No respiratory protection should be needed.
PROTECTIVE CLOTHING: No precautions other than clean body covering clothing should be needed. When using towels, gloves are recommended.
EYE PROTECTION: Use safety glasses or equivalent protection to avoid eye contact.

10. Spill, Leak & Disposal Procedures

ACTION TO TAKE FOR SPILLS/ LEAKS: Isolate damaged goods. Spills should be diluted with water, then absorbed with sand, clay or earth. Dispose of saturated absorbent materials appropriately since spontaneous heating may occur.
DISPOSAL METHOD: Landfill in accordance with local, state and federal regulations.

11. Special Precautions & Additional Information

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not mix with acidic materials such as certain toilet cleaners, ammonia, formaldehyde or heavy metals such as nickel, cobalt, copper and iron. Avoid contact with eyes, skin or clothing.

The information herein is given in good faith but no warranty, expressed or implied is made.
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EMERGENCY PHONE (989) 496-3110

CALTECH
1-800-234-7700
www.caltechind.com

011104

926204 MATERIAL SAFETY DATA SHEET

MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-612-851-8162

PROFESSIONAL PRODUCTS ECOLAB INC.
370 WABASHA STREET NORTH
ST. PAUL MN 55102
Product Information: 1-800-242-5362 Issue Date: June 8, 1999

1.0 IDENTIFICATION /

1.1 Product Name: CIDA-STERYL 28
1.2 Product Type: Liquid Glutaraldehyde Sterilant
1.3 Hazard Rating: Health: 3 Fire: 0 Reactivity: 0

Substances Subject to SARA 313 Reporting Are Indicated by "#"

2.0 HAZARDOUS COMPONENTS /

	CAS No.	%	(mg/m3) PEL	TWA
2.1 Glutaraldehyde	111-30-8	3	No	No*

*ACGIH STEL = 0.2C; NIOSH STEL = 0.8C

STEL = ACGIH short term exp. limit (15 min) PEL = OSHA 8 hr ave in air
TWA = ACGIH 8 hr average C = ceiling limit in air, do not exceed

3.0 PHYSICAL DATA /

3.1 Appearance: Clear colorless liquid; lemon fragrance (turns green when activated with powdered activator)
3.2 Solubility in Water: Miscible
3.3 pH: 3.75 - 4.50 (100%); 8.0 - 9.0 (following activation)
3.4 Initial Boiling Point: >212 deg F
3.5 Specific Gravity: 1.015 @ 68 deg F

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None
4.2 Fire Fighting Methods: Does not support combustion.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: None known.

6.0 SPILL OR LEAK PROCEDURES / WEAR PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Dike or dam large spills; pump to containers or soak up on inert absorbent. Flush residue to sanitary sewer; rinse area.
6.2 Waste Disposal: Consult state/local authority for limits on chemical waste disposal. Do not reuse empty containers.

7.0 HEALTH HAZARD DATA / DANGER

7.1 Effects of Overexposure to Concentrate:
Eyes: CAUSES CHEMICAL BURNS.
Skin: Causes irritation. May be absorbed through skin. Can cause sensitization.
If Swallowed: Harmful. Corrosive to tissue. May cause nausea, vomiting, and general systematic illness.
If Inhaled: May cause irritation, headache, chest discomfort, and symptoms of bronchitis.

011105

8.0 FIRST AID /

8.1 Eyes: Flush at once with cool running water. Remove contact lenses and continue flushing for 15 minutes, holding eyelids apart so as to rinse entire eye. CALL A PHYSICIAN IMMEDIATELY.

8.2 Skin: Immediately flush skin with plenty of cool running water for at least 15 minutes while removing contaminated clothing and shoes. Discard or wash before reuse.

8.3 If Swallowed: Rinse mouth at once; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. NEVER give anything by mouth to an unconscious person.

8.4 If Inhaled: If affected, move to fresh air.

IMMEDIATELY CALL THE MEDICAL EMERGENCY NUMBER, 1-800-328-0026, A POISON CONTROL CENTER, OR A PHYSICIAN

9.0 PROTECTIVE MEASURES /

9.1 FOR CONCENTRATE:
Eyes: Wear chemical splash goggles.
Skin: Wear any chemical resistant glove (such as butyl or nitrile, do not use PVC or neoprene).
Respiratory: Avoid breathing mists or vapors of this product.

10.0 ADDITIONAL INFORMATION /

10.1 Purpose of 6/8/1999 issue: First issue in present format.

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

011106

Procter & Gamble
CPG TN 6
2 Procter & Gamble Plaza
Cincinnati, OH 45202

MATERIAL SAFETY DATA SHEET

Issue Date: 6/01
Supersedes: 2/1/00 Issue Date: N/A

SECTION I - CHEMICAL PRODUCT

Identity: **Disinfectant Powder Cleanser**

Brands: **COMET Disinfectant Cleanser with Chlorinol (Professional Line)**

Hazard Rating: 1

Health: 1
Flammability:
Reactivity:

4=EXTREME
3=HIGH
2= MODERATE
1=SLIGHT

Emergency Telephone Number: - 1-800-332-7787 or call Local Poison Control Center

SECTION II - COMPOSITION AND INGREDIENTS

Ingredients/Chemical Name: Bleach, cleaning agents (calcium carbonate, sodium carbonate, anionic surfactants), quality control agents, perfume, color. Comet Disinfectant Cleanser with Chlorinol contains no phosphorus.

Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200.

Chemical Name	Common Name	CAS No,	Recommended Limits	Composition Range	LD50/LC50
Calcium carbonate	Limestone	1317-65-3	ACGIH TWA: 10mg/m^3 (total dust) / 5 mg/m^3 (respirable dust) OSHA PEL: 15 mg/m^3	60-100%	NA/NA
Silica, quartz	Quartz (naturally occurring component of limestone)	14808-60-7	ACGIH TWA: 0.1mg/m^3 (respirable dust) OSHA TWA: 0.1 mg/m^3	0.1-1%	9 g/kg/NA

SECTION III - HAZARDS IDENTIFICATION

Health Hazards (Acute and Chronic):

Ingestion: Mild mucous membrane irritant. May result in gastrointestinal irritation with nausea, vomiting and diarrhea.

Eye Contact: Mild eye irritant. Direct contact with eye may result in superficial, temporary irritation similar to those produced by other household detergents.

Skin: Mild skin irritant. Prolonged skin contact or direct contact with eye may result in superficial, temporary irritation similar to those produced by other household detergents.

Inhalation: Mild respiratory irritant. Unusually high exposures may cause coughing or irritation of nose and throat.

SECTION IV - FIRST AID INFORMATION

Emergency and First Aid Procedures:

Ingestion: Dilute with fluids and treat symptomatically.

Eye Contact: For accidental eye contact, flush thoroughly with water for 15 minutes.

Skin: Wash with soap and water and discontinue use.

Inhalation: For accidental, high level inhalation, remove to fresh air. Get medical attention if coughing persists.

Other: Product package has a caution statement: CAUTION: KEEP OUT OF REACH OF CHILDREN. May cause eye irritation. In case of eye contact, flush thoroughly with water. If irritation persists, see a physician. If swallowed, drink a glass of water to dilute. Do not mix with other products especially toilet bowl cleansers and products that contain ammonia.

SECTION V - FIRE FIGHTING INFORMATION

Flash Point (Method Used): N/A **Explosive Limits**: *LEL:* N/A *UEL*: N/A

Extinguishing Media: Use CO_2, water, or dry chemical.

Special Fire Fighting Procedures: None required.

Unusual Fire Hazards: None known.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: None

Environmental Precautions: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. Product contains biodegradable surfactant. If permitted, flush small quantities down sewer drain with large excess of water or dispose of at landfill.

Steps To Be Taken in Case Material is Released or Spilled: Vacuum to remove spill and place in trash container for disposal or flush with water. Do not dry sweep.

SECTION VII - HANDLING AND STORAGE

Precautions To Be Taken in Handling and Storing: Avoid moisture when storing to prevent loss of bleaching action and to prevent caking.

Other Precautions: None required.

SECTION VIII - EXPOSURE CONTROLS, PERSONAL PROTECTION

Respiratory Protection (Specify Type): None required with normal use. For bulk handling or other dusty conditions, use respiratory protection approved by NIOSH for dust.

Ventilation *Local Exhaust*: None required with normal use. *Special*: None

Mechanical (General): Acceptable. *Other*: None

Eye Protection: None required with normal consumer use.

Manufacturing: For splash protection, use chemical goggles.

Protective Gloves: None required with normal use.

Other Protective Equipment: None required with normal use.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point ° F: N/A
Vapor Pressure (mm Hg): N/A
Vapor Density (Air=1): N/A
Odor Threshold: N/A
Coefficient of Water/Oil Distribution: N/A
Scooped Density: N/A
Appearance and Odor: Green powder, cedar pine scent.
Specific Gravity (H_2O=1): ca. 1
Percent Volatile by Volume (%): ca. 1
Evaporation Rate (nBuOAc=1): N/A
Freezing Point: N/A
pH (1% solution): N/A
Solubility in Water: Moderately
Reserve Alkalinity: N/A

SECTION X - STABILITY AND REACTIVITY

Possible Hazardous Reactions/Conditions: None known

Conditions to Avoid: None

Materials to Avoid: Ammonia and acids

Hazardous Decomposition Products: Chlorine gas

Stability Stable

Hazardous Polymerization: Will not occur

Other Recommendations: None

SECTION XI - TOXICOLOGICAL INFORMATION

Calcium carbonate, an ingredient of this product, contains small amounts of crystalline silica (quartz) as a naturally occurring impurity. Prolonged, excessively high exposures to respirable crystalline silica may result in reduced lung function in some individuals. IARC has found sufficient evidence to classify crystalline silica as a carcinogen in animals, but there is limited evidence in humans.
LD50 (rats oral): 9 g/kg
ED50: 0.23 g/kg
Product as a whole:
CARCINOGENICITY: None known
SENSITIZATION EFFECTS: None known
REPRODUCTIVE EFFECTS: None known
SYNERGISTIC EFFECTS: None known

SECTION XII - ECOLOGICAL INFORMATION

No concerns

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: Product contains biodegradable surfactant. If permitted, flush small quantities down sewer drain with large excess of water or dispose of at landfill. DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION XIV - TRANSPORT INFORMATION

DOT Classification: Not regulated. Not DOT hazardous.

SECTION XV - ADDITIONAL REGULATORY INFORMATION

All components are listed on the US TSCA Inventory. No components are affected by Significant New Use Rules (SNURs) under TSCA §5.

This product is an EPA registered pesticide EPA Reg. No.# 3573-51

No components of Comet are subject to California Proposition 65.

All ingredients are CEPA approved for import to Canada by Procter & Gamble. This product has been classified with Hazard Criteria of the Canadian Control Products Regulation (CPR) and this MSDS contains all information required by the Canadian Products Regulation.

SECTION XVI - OTHER INFORMATION

*N/A. - Not Applicable *N/K. - Not Known

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific material designated herein, and does not relate to the use in combination with any other material or any other process. Procter & Gamble assumed no responsibility for injury to the recipient or third persons, for any damage to any property resulting from misuse of the controlled product.

Material Safety Data Sheet

OSHA Hazard Communication Std. 29CFR1910.1200

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:

Product Name: ERADO-SOL and E-Sol Foamy - # 207

Company: CAMBRIDGE DIAGNOSTIC PRODUCTS, INC. (954) 971-4040
6880 NW 17th Avenue, Fort Lauderdale, FL 33309

Emergency Telephone Number: CHEM-TREC 1-800-424-9300

2. COMPOSITION/INFORMATION ON HAZARDOUS INGREDIENTS:

Ingredient	CAS #	% Weight	Exposure Limits
Ethanol (SDA-3A)	64-17-5	10-19%	1,000 ppm ACGIH TLV
Methanol*	67-56-1	< 1%	200 ppm ACGIH TLV

* Above Methanol is contained in specially denatured, cosmetic grade Ethanol (SDA-3A)

3. HAZARDS IDENTIFICATION:

Emergency Overview: Not Hazardous
Skin: Not Hazardous
Eye Contact: Contact will cause irritation.
Inhalation: Not Hazardous
Ingestion: May cause dizziness, depression and diarrhea.

4. FIRST AID MEASURES:

Skin Contact: Not expected to present skin irritation. For dry skin condition, use a high quality emollient cream. Discontinue use if signs of irritation or rash appear.
Eye Contact: Irrigate with water or eyewash for 15 minutes.
Inhalation: None
Ingestion: Seek medical attention. Note: Physician may induce vomiting.

5. MEASURES FOR FIRE FIGHTING:

Flash Point (Typical): None
Upper Flammable Limit: N/A
Unusual Fire and Explosion: None
Reactivity: None
Explosion Data: None
NFPA Rating: Health – 0

Auto Ignition Temperature: None
Firefighting Procedures: None
Hazards: None
Flammability: None
Health: Not Hazardous
Flammability – 0 **Reactivity - 0**

6. ACCIDENTAL RELEASE MEASURES:

None

7. HANDLING AND STORAGE:

Storage Temperature: 50 – 90°F

Storage Precautions: None
Unsuitable Materials: Do not mix with any other chemical but water. DO NOT MIX WITH HOUSEHOLD BLEACH (SODIUM HYPOCHLORITE).
Storage Procedures: None

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION:

Exposure Limits: N/A
Ventilation Procedures: N/A
Hand Protection: N/A
Eye Protection: Glasses
Respiratory Protection: None
Clothing: N/A

9. TYPICAL PHYSICAL AND CHEMICAL PROPERTIES:

Appearance: Pink to orange, low viscosity, pleasantly scented liquid.
Solubility: Infinite in water
Odor: Pleasant
Specific Gravity: 1.00 to 1.10
pH as Supplied: 7.0 to 8.0
Boiling Point: 210°F
Vapor Pressure: N/A
% Volatile by Volume: N/A
Vapor Density: N/A
Percent Solids (w/w) : Trade secret

10. STABILITY AND REACTIVITY:

Stability: N/A
Incompatibility: Do not mix with any other chemical but water. DO NOT MIX WITH HOUSEHOLD BLEACH (SODIUM HYPOCHLORITE).
Hazardous Polymerization: Will not occur.
Hazardous Decomposition Products: None expected

11. TOXICOLOGICAL INFORMATION:

Eyes: Slight irritant
Skin: None
Respiratory: None
Oral LD50: N/A
Dermal LD50: N/A
Chronic Toxicity: N/A
Carcinogenicity: None known
Mutanogenicity: None known
Teratogenicity: None known
Occupational Exposure: No adverse effects are documented.
Limits: None
Other: None

12. ECOLOGICAL INFORMATION:

Biodegradable and Phosphate Free – No treatment necessary

13. DISPOSAL CONSIDERATIONS:

Product: None
Packaging, Empty: Rinse with tap water prior to disposal.

14. TRANSPORT INFORMATION:

Proper Shipping Name: Cleaning Compound NOI
Not Regulated: Not regulated

15. REGULATORY INFORMATION:

S.A.R.A. Title III section 313

Ethanol : 10 to 19%

TSCA Inventory Status

DE MINIMIS Methanol < 1%

16. FURTHER DATA:

Cambridge Diagnostic Products, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide for the appropriate precautionary handling of the material by a properly trained person using the product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.

Material Safety Data Sheet

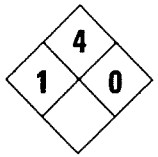
General Information

Flex 80

Flex 80

Date Issued:	6-1-95
Replaces:	9-1-91
Patent Number:	4,911,915
Manufacturer:	Richard-Allan Scientific 225 Parsons Street Kalamazoo, MI 49007 800 522 7270
CHEMTREC:	800 424 9300 For transportation emergencies
Chemical Family:	Alcohols

Hazard Symbology



Health Hazard	Fire Hazard Flash Points	Reactivity	Specific Hazard
4 Deadly	4 Below 73° F	4 May detonate	ACID - Acid
3 Extreme danger	3 Below 100° F	3 Shock & heat may detonate	COR - Corrosive
2 Hazardous	2 Above 100° F, not exceeding 200° F	2 Violent chemical change	OXY - Oxidizer
1 Slightly hazardous	1 Above 200° F	1 Unstable if heated	P - Polymerization
0 Normal material	0 Will not burn	0 Stable	☢ - Radioactive
			W - Use No Water

Hazardous Ingredients

	CAS No.	PEL	STEL	Agency
		8 hr. TWA		
Isopropanol	67-63-0	400 ppm	500 ppm	OSHA, ACGIH
Methanol	67-56-1	200 ppm	250 ppm	OSHA, ACGIH

Physical Data

Appearance and Odor:	Water white liquid. Mild characteristic odor.
Boiling Point:	72.2 - 96.1° C (162 - 205° F)
Evaporation Rate:	2.8 (Butyl Acetate = 1)
Percent Volatile by Volume:	100%
Solubility in Water:	Complete
Specific Gravity:	0.85 @ 21° C (Water = 1)
Vapor Density:	1.3 (Air = 1)
Vapor Pressure:	30 mm Hg

Richard-Allan Scientific believes the information herein to be correct and factual as of the issue date hereof. This information is furnished on the condition that the person receiving it shall make the determination as to the suitability of the material for his/her particular purpose and on the condition that he/she assume the risk of the use thereof.

6-1-95
Issue date

Theresa M. Schluter
Signed

0111114

Material Safety Data Sheet

Fire and Explosion Hazard Data

Flammability Class (OSHA): IB
Flash Point (TCC): 20.0° C (68° F) Closed Cup
Flammable Limits in Air; % by Volume: LOWER 2.5, UPPER 35

Extinguishing Media: Alcohol foam, dry chemicals, carbon dioxide, water in flooding amounts as a fog. Solid streams may not be effective. Cool fire-exposed containers with water from side until well after fire is out. Use of water spray to flush spills can also dilute the spill to produce non-flammable mixtures. Water runoff, however, should be contained for treatment.

Special Fire and Explosion Hazards: Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other sources at locations distant from material handling point.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus with a full face piece operated in the positive pressure demand mode when fighting fires.

Reactivity Data

Stability: Stable.

Incompatibility: Avoid contact with strong oxidizing agents.

Hazardous Decomposition: Thermal decomposition or burning may produce carbon monoxide and/or carbon dioxide.

Hazardous Polymerization: None.

Health Hazard Data

Skin Effects: Prolonged or repeated contact can cause moderate irritation, defatting, dermatitis.

Eye Effects: Can cause severe irritation, redness, tearing, blurred vision.

Systemic Effects:

Ingestion: Can cause gastrointestinal irritation, nausea, vomiting, diarrhea, blindness, death.

Inhalation: Excessive inhalation of vapors can cause nasal and respiratory irritation, central nervous system effects including dizziness, weakness, fatigue, nausea, headache, unconsciousness, and even death.

Chronic Effects of Exposure:

Overexposure to this material, or its components, has been suggested as a cause of the following effects in humans: Liver abnormalities, eye damage, and kidney damage.

Protective Equipment

Ventilation: General mechanical ventilation or fume hood.

Personal Protective Equipment: Chemical resistant gloves; chemical splash goggles; and NIOSH/MSHA approved respirators are advised in the absence of proper environmental control.

Emergency and First Aid Procedures

Skin Contact: Remove contaminated clothing (including shoes) immediately. Wash the affected area of your body with soap or mild detergent and large amounts of water until no evidence of the chemical remains – at least 15 to 20 minutes.

Eye Contact: In case of eye contact, immediately flush eye with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Call a physician. If you have appreciable eye irritation from a splash or excessive exposure, you should be referred to an opthalmologist for evaluation.

Inhalation: If affected by vapors, move patient to fresh air immediately. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Keep the affected person warm and at rest.

Ingestion: Immediately drink two glasses of water and induce vomiting by either giving Ipecac syrup or by placing finger at back of throat. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Spill, Leak and Disposal Procedures

Emergencies: If a spill of appreciable quantity occurs, leave the area quickly unless you have specific emergency duties. Do not touch spilled material. Designated person may stop the leak and shut off ignition sources if these procedures can be done without risk. Designated persons should isolate the hazard area and deny entry except for necessary people protected by suitable protective clothing and respirators adequate for the exposure. Use water spray to reduce vapors. Do not smoke, and prohibit all flames or flares in the hazard area.

Occupational Spill: For small containers, place the leaking container in a well ventilated area. Take up small spills with absorbent material and transfer to hood. Place the waste into properly labeled containers for later disposal. For larger spills, dike the spill to minimize contamination and facilitate salvage or disposal. Remaining liquid may be taken up on sand, clay, earth, floor absorbent, or other absorbent material and shoveled into containers. Prevent run-off to sewers, streams, or other bodies of water. Your employer must comply with EPA rules regarding the clean-up of toxic waste and notify state and local authorities, if required.

Waste Disposal: Your employer must dispose of waste containing alcohol in accordance with applicable local, state and federal laws (each has unique requirements) and in a manner that minimizes exposure of employees at the site and of the clean-up crew. Flex 80 is considered to be a hazardous waste – Hazardous waste code D001.

Shipping Information

Storage Conditions: Keep container closed. Keep away from heat and open flame. Store at room temperature: 15 - 30° C (59 - 86° F).

Transportation: DOT shipping name is 'Flammable Liquid, N.O.S.'. DOT hazard class is '3'.

Shipping Containers: Drums, Bottles.

011115

Product: 162099 WAXIE FRESH APPLE ODOR COUNTERACTANT-QT Effective : 05/01/95
Emergency Phone # (800) 255-3924 Supersedes: 06/01/88
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION I-PRODUCT IDENTIFICATION ***

******* MANUFACTURER *******

CDC
74-16 GRAND AVENUE

ELMHURST, NY 11373-4127
(800) 221-4248

****** DISTRIBUTED BY ******

WAXIE SANITARY SUPPLY
Corporate Headquarters
9353 Waxie Way
San Diego, CA 92123
(858) 292-8111
Tom Seaton
Director of Product Management

HAZARD RATING	HMIS	NFPA
Health :	not available	not available
Flammability :	not available	not available
Reactivity :	not available	not available

*** SECTION II-HAZARDOUS INGREDIENTS/IDENTITY INFORMATION ***

CAS #	INGREDIENTS	WEIGHT %
N/A-31	The mixture has been tested as a whole to determine its hazard, results have detemined to be non-toxic/non-hazardous	

*** SECTION III-PHYSICAL DATA ***

APPEARANCE/ODOR.....: Lightly colored, clear, fragranced liquid.
SPECIFIC GRAVITY.....: 1
VAPOR PRESSURE - (mm Hg).....: <0.1
PERCENT VOLATILE BY VOLUME (%)....:
SOLUBILITY IN WATER.....: 100%
VAPOR DENSITY (Air=1).....: >1
FREEZING POINT (*F).....:
BOILING POINT (*F).....: 207-210*F
ph.....:
EVAPORATION RATE (Butyl Acetate=1): Not applicable
VOC.....:
THEORETICAL VOC (lb/gal).....:

*** SECTION IV-FIRE AND EXPLOSION INFORMATION ***

FLASH POINT (*F) (Method Used):
Not flammable.
FLAMMABLE LIMITS:
Not applicable
EXTINGUISHING MEDIA:
Water, CO_2, foam, dry chemical.
SPECIAL FIREFIGHTING PROCEDURES:
None.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
None.

*** SECTION V-HEALTH HAZARD DATA ***

PRIMARY ROUTE OF ENTRY:
The primary route of entry is inhalation.

Product: 162099 WAXIE FRESH APPLE ODOR COUNTERACTANT-QT Effective : 05/01/95
Emergency Phone # (800) 255-3924 Supersedes: 06/01/88
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION V-HEALTH HAZARD DATA ***

SIGNS AND SYMPTOMS:

Eye & Skin Contact: May cause irritation.
Inhalation: Not determined, however products of this type are made for their odor value and are intended to be inhaled.
Ingestion: This productis non-toxic, however if large quantities are ingested, gastrointestinal disturbances may occur.

FIRST AID PROCEDURES:

Eyes: Flush eyes with water and see a physcian.
Skin: Wash thoroughly with soap and water.
Ingestion: This product is non-toxic, however if large amounts are ingested, gastrointestinal disturbances may occur. If so, see a physician.
Inhalation: Move person to fresh air.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:

*** SECTION VI-REACTIVITY DATA ***

STABILITY:

Stable.

STABILITY-CONDITIONS TO AVOID:

Not applicable

INCOMPATIBILITY:

Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon Monoxide upon incomplete combustion

HAZARDOUS POLYMERIZATION:

Will not occur.

HAZARDOUS POLYMERIZATION-CONDITIONS TO AVOID:

Not applicable

*** SECTION VII-SPILL OR LEAK PROCEDURES ***

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Spills may be cleaned by wet vacuuming, flushing with water to drains, soaking up with clay, sawdust or other suitable absorbent. Avoid prolonged exposure to fumes.

WASTE DISPOSAL INFORMATION:

Method consistent with good ecological practices.

*** SECTION VIII-SPECIAL PROTECTION INFORMATION ***

RESPIRATORY PROTECTION:

Not applicable

VENTILATION:

Not applicable

PROTECTIVE GLOVES:

Not applicable

EYE PROTECTION:

Not applicable

OTHER PROTECTIVE MEASURES:

Not applicable

Product: 162099 WAXIE FRESH APPLE ODOR COUNTERACTANT-QT Effective : 05/01/95
Emergency Phone # (800) 255-3924 Supersedes: 06/01/88
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION IX-SPECIAL PRECAUTIONS ***

PRECAUTIONARY LABELING:
KEEP OUT OF REACH OF CHILDREN
OTHER HANDLING AND STORAGE CONDITIONS:
Avoid storing product under extremely high (above 90*F) or low (below 32*F) temperature.

*** SECTION XI-TRANSPORTATION INFORMATION ***

DOT CLASS:

DOT #:

SHIPPING NAME:
DOT NOTES:

The disclosures and information set forth on this sheet were provided by manufacturers and distributors who provide product(s) for WAXIE. WAXIE does not warrant the accuracy, completeness or legality of such disclosures or information or that WAXIE has correctly and completely reproduced and copied the same.

901634 MATERIAL SAFETY DATA SHEET: USA

MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-651-222-5352

Ecolab Inc. Healthcare Division
370 Wabasha Street
St. Paul MN 55102

Product Information: 1-800-332-6522 Issue Date: February 12, 2004

1.0 IDENTIFICATION /

1.1 Product Name: GERMA-CARE (DC)
1.2 Product Type: Liquid Hand Soap
1.3 Hazard Rating: Health: 0 Fire: 0 Reactivity: 0

Substances Subject to SARA 313 Reporting Are Indicated by "#"

2.0 HAZARDOUS COMPONENTS /

2.1 This product is not considered hazardous according to the criteria of 29 CFR 1910.1200. It does not contain 1% or more of any substance listed in SARA 313. It is not a DOT hazardous material.

3.0 PHYSICAL DATA /

3.1 Appearance: Light cream viscous liquid; herbal fragrance
3.2 Solubility in Water: Mixes with water in all proportions
3.3 pH: 9.1-9.9 (at 100%)
3.4 Initial Boiling Point: > 212 deg F / 100 deg C
3.5 Specific Gravity: 1.010 @ 68 deg F / 20 deg C

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: None, does not support combustion.
4.2 Fire Fighting Methods: Use method appropriate for surrounding fire.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: Do not mix with other chemicals. Use standard hygiene practices to maintain product integrity.

6.0 SPILL OR LEAK PROCEDURES / WEAR PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup and Disposal: Rinse small amounts to the sanitary sewer drain with plenty of water; mop up spills and rinse area thoroughly with water.

7.0 HEALTH HAZARD DATA / CAUTION

7.1 Effects of Overexposure to Concentrate:
Eyes: May cause minor irritation.
If Swallowed: May cause irritation, nausea, stomach distress.

8.0 FIRST AID /

8.1 Eyes: Flush with plenty of cool running water. Remove contact lenses, if used, and flush again.
8.2 If Swallowed: Rinse mouth; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. Never give anything by mouth to an unconscious person.

011119

IF IRRITATION OR DISCOMFORT PERSISTS, CALL A PHYSICIAN.

9.0 PROTECTIVE MEASURES /

9.1 FOR CONCENTRATE:
No protective equipment is necessary under normal use conditions.

10.0 ADDITIONAL INFORMATION /

10.1 Purpose of 2/12/2004 issue: QC updates. Replaces June 11, 1999 issue

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

011120

Product: 320080 HOUSEKEEPER ALL-SURFACE CLEANER (12/CS) Effective : 07/13/00
Emergency Phone # (800) 255-3924 Supersedes: 06/23/93
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION I-PRODUCT IDENTIFICATION ***

******* MANUFACTURER *******
GENLABS
PO BOX 1697

CHINO, CA 91708-/10
(909) 591-8451

****** DISTRIBUTED BY ******
WAXIE SANITARY SUPPLY
Corporate Headquarters
9353 Waxie Way
San Diego, CA 92123
(858) 292-8111
Tom Seaton
Director of Product Management

HAZARD RATING	HMIS	NFPA
Health :	not available	0 Insignificant
Flammability :	not available	0 Insignificant
Reactivity :	not available	0 Insignificant

*** SECTION II-HAZARDOUS INGREDIENTS/IDENTITY INFORMATION ***

CAS #	INGREDIENTS	WEIGHT %
NONE	NONE	

EXPOSURE LIMIT : Not established

*** SECTION III-PHYSICAL DATA ***

APPEARANCE/ODOR.....: Pink, Floral odor
SPECIFIC GRAVITY.....: 1.051
VAPOR PRESSURE - (mm Hg).....: Not Tested
PERCENT VOLATILE BY VOLUME (%)....:
SOLUBILITY IN WATER.....: 100%
VAPOR DENSITY (Air=1).....: Not Tested
FREEZING POINT (*F).....:
BOILING POINT (*F).....: >212 deg F
ph.....: 9 - 10.5
EVAPORATION RATE (Butyl Acetate=1): Not Tested
VOC.....: 15.6 g/L
THEORETICAL VOC (lb/gal).....:

*** SECTION IV-FIRE AND EXPLOSION INFORMATION ***

FLASH POINT (*F) (Method Used):
None
FLAMMABLE LIMITS:
Not Tested. LEL / UEL: None
EXTINGUISHING MEDIA:
None
SPECIAL FIREFIGHTING PROCEDURES:
None
UNUSUAL FIRE AND EXPLOSION HAZARDS:
None

*** SECTION V-HEALTH HAZARD DATA ***

PRIMARY ROUTE OF ENTRY:
Inhalation, Skin, Ingestion
SIGNS AND SYMPTOMS:
Eyes: Burning sensation.

Product: 320080 HOUSEKEEPER ALL-SURFACE CLEANER (12/CS) Effective : 07/13/00
Emergency Phone # (800) 255-3924 Supersedes: 06/23/93
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION V-HEALTH HAZARD DATA ***

Skin: Not expected to be a problem.
Ingestion: Nausea.
Inhalation: Not expected to be a problem.

FIRST AID PROCEDURES:
Eyes: Flush with water for 15 minutes. If irritation persists, call a physician.
Skin: Wash off with soap and water.
Ingestion: Drink Large amounts of Water, Call physician.
Inhalation: See above.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:
Same as signs and symptoms of over exposure.

*** SECTION VI-REACTIVITY DATA ***

STABILITY:
Stable.

STABILITY-CONDITIONS TO AVOID:
None

INCOMPATIBILITY:
Strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO2

HAZARDOUS POLYMERIZATION:
None

HAZARDOUS POLYMERIZATION-CONDITIONS TO AVOID:
None

*** SECTION VII-SPILL OR LEAK PROCEDURES ***

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Soak up with inert, absorbent material. Scoop up and place in a proper waste disposal container.

WASTE DISPOSAL INFORMATION:
Dispose of in accordance with state and local regulations.

*** SECTION VIII-SPECIAL PROTECTION INFORMATION ***

RESPIRATORY PROTECTION:
Open all doors and windows. If there is an exposure, and it is above TLV or PEL, a NIOSH approved respirator equipped for the exposure or suitable respiratory protection per 29 CFR 1910.134, is required.

VENTILATION:
Local exhaust: If available. Special: None.
Mechanical: If available. Other: None.

PROTECTIVE GLOVES:
None.

EYE PROTECTION:
Glasses, goggles.

OTHER PROTECTIVE MEASURES:
Use common sense and care around chemicals. Never mix chemicals. Consult your Supervisor for other practices. All practices depend on your specific business. Directions for use are normally found on label which will dictate engineering and control measures.

Product: 320080 HOUSEKEEPER ALL-SURFACE CLEANER (12/CS) Effective : 07/13/00
Emergency Phone # (800) 255-3924 Supersedes: 06/23/93
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION VIII-SPECIAL PROTECTION INFORMATION ***

*** SECTION IX-SPECIAL PRECAUTIONS ***

PRECAUTIONARY LABELING:
Keep out of reach of children. Follow directions on the container for proper use of this product.

OTHER HANDLING AND STORAGE CONDITIONS:
Store in a cool dry place, out of direct sunlight. Do not freeze, less than 32 deg F or equal, or heat above 110 deg F.

*** SECTION X-ADDITIONAL INFORMATION ***

ADDITIONAL INFORMATION:
Note: All chemicals incorporated into this product are found on the TSCA Inventory List.

*** SECTION XI-TRANSPORTATION INFORMATION ***

DOT CLASS:

DOT #:
None

SHIPPING NAME:

DOT NOTES:

*** SECTION XII-REGULATORY INFORMATION ***

Note: Genlabs believes the data set forth are accurate, Genlabs makes no warranty with respects thereto and disclaims all liability for reliance thereon. Such data are offered solely for consideration, investigation and verification. Also, the data set forth is for the concentrated finished product.
The disclosures and information set forth on this sheet were provided by manufacturers and distributors who provide product(s) for WAXIE. WAXIE does not warrant the accuracy, completeness or legality of such disclosures or information or that WAXIE has correctly and completely reproduced and copied the same.

SOLUTIONS DEPARTMENT
MSDS for ISOPROPYL ALCOHOL, 70%

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I - General Information

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: ISOPROPYL ALCOHOL, 70%; 2-PROPANOL 70%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
2-PROPANOL	70.0	67-63-0	FISHER SCIENTIFIC	A426-4
DI-WATER	30.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	1	1	0	3

SPECIAL HAZARD RATING: AVOID INHALING VAPORS

5 - Section IV - Storage and Stability

STORAGE: FLAMMABLE

STABILITY: 3 YEARS

Material Safety Data Sheet
2-Propanol, 99-100%

CC# 12090

Section 1 - Chemical Product and Company Identification

MSDS Name: 2-Propanol, 99-100%
Catalog Numbers: AC149320200, AC412790040, NC9051978, S77795, S77795HPLC, S77798, XXA451U200LI, A415-20, A415-4, A416-1, A416-20, A416-200, A416-4, A416-500, A416200LC, A41620LC, A416FB115, A416FB19, A416FB200, A416FB50, A416J500, A416P-4, A416POP19, A416POP200, A416POP50, A416POPB200, A416POPB50, A416RB115, A416RB19, A416RB200, A416RB50, A416RS115, A416RS200, A416RS28, A416RS50, A416S-4, A416SK-4, A416SK4LC, A416SS-28, A416SS115, A416SS19, A417-1, A417-4, A419-1, A419-4, A419POP200, A419POP50, A419RS115, A419RS200, A419RS28, A419SS115, A419SS200, A419SS28, A419SS50, A426F-1GAL, A426P-4, A426P1GAL, A426PJ4, A426S-20, A426S-200, A426S-4, A451-1, A451-4, A451CU50, A451J1, A451N219, A451NB219, A451POP19, A451POP19N, A451POP200, A451POP50, A451RS-19, A451RS-200, A451RS-50, A451SK-1, A451SK-4, A451SS-200, A451SS19, A464-4, A464J4, A464POP200, A464RS200, A464SK4LI, A464SS200, A516-20, A516-200, A516-4LC, A516-4LOT001, A519-4, A520-4, A520POP19, A520POP200, A520POP50, A520POPN19, A520RS200, A520SS115, A520SS19, A520SS200, A520SS50, A5224, BP2621100, HC5001GAL, NC9059140, NC9059141, NC9587417, NC9618918, NC9754679, NC9808149, NC9872286, NC9909588, NC9923474, NC9926971, S77795SPEC, XXA520200LI1
Synonyms: Isopropanol; Dimethylcarbinol; sec-Propyl alcohol; Rubbing alcohol; Petrohol; 1-Methylethanol; 1-Methylethyl alcohol; 2-Hydroxypropane; 2-Propyl alcohol; Isopropyl alcohol; Propan-2-ol; IPA; 2-Propanol.
Company Identification:
Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
67-63-0	2-Propanol	> 99	200-661-7

Hazard Symbols: XI F
Risk Phrases: 11 36 67

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 12 deg C. **Warning!** May cause central nervous system depression. May form explosive peroxides. **Flammable liquid and vapor.** Hygroscopic (absorbs moisture from the air). Causes respiratory tract irritation. Aspiration hazard if swallowed. Can enter lungs and ause damage. This material has been reported to be susceptible to autoxidation and therefore should be classified as peroxidizable. Causes eye irritation. Breathing vapors may cause drowsiness and dizziness. Prolonged or repeated contact causes defatting of the skin with irritation, dryness, and cracking.

Target Organs: Central nervous system, respiratory system, eyes, skin.

Potential Health Effects
Eye: Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury. In the eyes of a rabbit, 0.1 ml of 70% isopropyl alcohol caused conjun ctivitis, iritis, and corneal opacity.
Skin: May cause irritation with pain and stinging, especially if the skin is abraded. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. May be absorbed through intact skin. Dermal absorption has been considered toxicologically insignificant. T he cases of deep coma associated with skin contact are thought to be a consequence of gross isopropanol vapor inhalation in rooms with inade quate ventilation, rather than being attributable to percutaneous abso rption of isopropanol per se.
Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. The probable oral lethal dose in humans is 240 ml (2696 mg/kg), but in gestion of only 20 ml (224 mg/kg) has caused poisoning.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.
Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.
Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.
Ingestion: Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Notes to Physician: Urine acetone test may be helpful in diagnosis. Hemodialysis should be considered in severe intoxication. Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. May form explosive peroxides. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.
Extinguishing Media: Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.
Flash Point: 12 deg C (53.60 deg F)
Autoignition Temperature: 399 deg C (750.20 deg F)
Explosion Limits, Lower:2.0 vol %
Upper: 12.7 @ 200—F
NFPA Rating: (estimated) Health: 1; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray to dilute spill to a non-flammable mixture. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor or mist. Do not allow to evaporate to near dryness.
Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation. Store protected from moisture. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
2-Propanol	200 ppm TWA; 400 ppm STEL	400 ppm TWA; 980 mg/m3 TWA 2000 ppm IDLH	400 ppm TWA; 980 mg/m3 TWA

OSHA Vacated PELs: 2-Propanol: 400 ppm TWA; 980 mg/m3 TWA
Personal Protective Equipment
Eyes: Wear chemical goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: colorless
Odor: alcohol-like
pH: Not available.
Vapor Pressure: 33 mm Hg @ 20 deg C
Vapor Density: 2.1 (Air=1)
Evaporation Rate:1.7 (n-butyl acetate=1)
Viscosity: 2.27 mPas @ 20C
Boiling Point: 82 deg C @ 760 mmHg
Freezing/Melting Point:-88 deg C
Decomposition Temperature: Not available.
Solubility: Miscible.
Specific Gravity/Density:0.7850 (water=1)
Molecular Formula:C3H8O
Molecular Weight:60.09

Section 10 - Stability and Reactivity

Chemical Stability: Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat or shock. This material is most hazardous when peroxide levels are concentrated by distillation or evaporation. Isopropanol is susceptible to autoxidation and therefore should be classified as peroxidizable.
Conditions to Avoid: Light, ignition sources, excess heat, exposure to moist air or water.
Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases, amines, ammonia, ethylene oxide, isocyanates, acetaldehyde, chlorine, phosgene, Attacks some forms of plastics, rubbers, and coatings., aluminum at high temperatures.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 67-63-0: NT8050000
LD50/LC50:
CAS# 67-63-0:
Draize test, rabbit, eye: 100 mg Severe;
Draize test, rabbit, eye: 10 mg Moderate;
Draize test, rabbit, eye: 100 mg/24H Moderate;
Draize test, rabbit, skin: 500 mg Mild;
Inhalation, mouse: LC50 = 53000 mg/m3;
Inhalation, rat: LC50 = 72600 mg/m3;
Inhalation, rat: LC50 = 16000 ppm/8H;
Oral, mouse: LD50 = 3600 mg/kg;
Oral, mouse: LD50 = 3600 mg/kg;
Oral, rabbit: LD50 = 6410 mg/kg;
Oral, rat: LD50 = 5000 mg/kg;
Oral, rat: LD50 = 5045 mg/kg;
Skin, rabbit: LD50 = 12800 mg/kg;
Carcinogenicity:
CAS# 67-63-0:
ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: IARC Group 3 - not classifiable
Epidemiology: Experimental teratogenic and reproductive effects have been reported for isopropanol.

Early epidemiological studies hav e suggested an association between the strong acid man ufacture of isopropyl alcohol and paranasal sinus cancer in workers.
Teratogenicity: A rat & rabbit developmental toxicity study showed no teratogenic effects at doses that were clearly maternally toxic. In a separate rat study, no evidence of developmental neurotoxicity was associated with gestational exposures to IPA up to 1200 mg/kg/d.
Reproductive Effects: See actual entry in RTECS for complete information.
Neurotoxicity: No information available.
Mutagenicity: See actual entry in RTECS for complete information.
Other Studies: Standard Draize Test: Administration onto the skin (rabbit) = 500 mg (Mild). Standard Draize Test: Administration into the eye (rabbit) = 100 mg (Moderate). Standard Draize Test : Administration into the eye = 10 mg (Moderate). Standard D raize test: Administration into the eye (rabbit) = 100 mg/24 H (Moderate).

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: >1000 ppm; 96h; LC50 ia: >1000 ppm; 96h; LC50 Gold orfe: 8970-9280 ppm; 48h; LC50 IPA has a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a low potential to affect the germination of some plants, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge.
Environmental: No information available.
Physical: THOD: 2.40 g oxygen/gCOD: 2.23 g oxygen/gBOD-5: 1.19-1.72 g oxygen/g
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	ISOPROPANOL				ISOPROPANOL
Hazard Class:	3				3
UN Number:	UN1219				UN1219
Packing Group:	II				II
Additional Info:					FLASHPOINT 12C

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 67-63-0 is listed on the TSCA inventory.
Health & Safety Reporting List

CAS# 67-63-0: Effective Date: 12/15/86; Sunset Date: 12/15/96

Chemical Test Rules

CAS# 67-63-0: Testing required by manufacturers, importers, processors

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 67-63-0: acute, chronic, flammable.

Section 313

This material contains 2-Propanol (CAS# 67-63-0, 99%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 67-63-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI F

Risk Phrases:

R 11 Highly flammable.
R 36 Irritating to eyes.
R 67 Vapors may cause drowsiness and dizziness.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 24/25 Avoid contact with skin and eyes.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 67-63-0: 1

Canada - DSL/NDSL

CAS# 67-63-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2B.

Canadian Ingredient Disclosure List

CAS# 67-63-0 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 67-63-0: OEL-AUSTRALIA:TWA 400 ppm (980 mg/m3);STEL 500 ppm (12 25 mg/m3) OEL-BELGIUM:TWA 400 ppm (985 mg/m3);STEL 500 ppm (1230 mg/m 3) OEL-DENMARK:TWA 200 ppm (490 mg/m3);Skin OEL-FRANCE:STEL 400 ppm (980 mg/m3) OEL-GERMANY:TWA 400 ppm (980 mg/m3) OEL-JAPAN:STEL 400 p pm (980 mg/m3) OEL-THE NETHERLANDS:TWA 400 ppm (980 mg/m3);Skin OEL- IE PHILIPPINES:TWA 400 ppm (980 mg/m3) OEL-RUSSIA:STEL 400 ppm (10 m g/m3) OEL-SWEDEN:TWA 150 ppm (350 mg/m3);STEL 250 ppm (600 mg/m3) OE L-SWITZERLAND:TWA 400 ppm (980 mg/m3);STEL 800 ppm OEL-TURKEY:TWA 200 ppm (500 mg/m3) OEL-UNITED KINGDOM:TWA 400 ppm (980 mg/m3);STEL 500 ppm;Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OE L IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 7/23/1999
Revision #11 Date: 10/12/2001

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

Bristol-Myers Squibb Company

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

BRISTOL-MYERS PRODUCTS
A DIVISION OF BRISTOL-MYERS SQUIBB COMPANY

1350 LIBERTY AVENUE
HILLSIDE, NJ 07207-6050
1-800-468-7746

February, 18, 2003

Product Identification KeriR Advanced Moisture Therapy
KeriR Sensitive Skin Moisture Therapy

Chemical Name: Special Ingredients - Glycerol, Tocopheryl Acetate (Vitamin E Acetate), Aloe Barbadensis Gel (Veragel 1:1)
Synonym: Advanced Moisture Therapy: Fast Absorbing Lotion - Softly Scented, Fast Absorbing - Dry Skin (Reference number 5099-16); Sensitive Skin Moisture Therapy: Fast Absorbing Lotion - Fragrance Free (Sensitive Skin), Fast Absorbing

Lotion - Sensitive Skin (Reference number 5099-17)
How Supplied: Plastic (high density polyethylene) bottles.
Product Use: Skin lubricant and moisturizer.
Chemical Family: Not applicable
CAS #: Numerous CAS numbers - see Section 2 below.

EMERGENCY CONTACTS
Health: 1-800-468-7746 (Monday through Friday, daytime). At other times contact CHEMTREC or the local poison control center.

Transportation: CHEMTREC 1-800-424-9300. For all international transportation emergencies call CHEMTREC at 703-527-3887, collect call accepted.

EMERGENCY OVERVIEW: Smooth, white, thick liquid. The constituents of KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy are all "generally recognized as safe" under the conditions of the product's intended use, as determined by qualified scientific experts. This product is for external use only.

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2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	OSHA HAZARDOUS Y/N)	CONCENTRATION (WEIGHT %)	CAS#	EXPOSURE GUIDELINE
tocopheryl acetate	Y	0.2	7695-91-2	None.
water, USP	N	>1	7732-18-5	None.
white petrolatum,USP	N	>1	8009-03-85	5 mg/m3 1,2, 10 mg/m3 TLV- STEL1. (as mist).

glycerol	Y	>1	56-81-5	10 mg/m3 1 5mg/m3 respirable 2 15mg/m3 total 2 (as mist).
hexadecanol (cetyl alcohol)	Y	>1	36653-82-4	None.
stearic acid	Y	>1	57-11-4	None.
hydrogenated polyisobutene	N	>1	68937-10-0	None.
aloe barbadensis gel	N	0.1	NA	None.

Present at <1% for fragrance, color, stability, or pH adjustment: Carbomer, methylparaben, disodium EDTA, magnesium aluminum silcate, sodium hydroxide, dimethicone, PEG-5 Soya Sterol, cyclopentasiloxane, dimethicone copolyol, Arlacel 165, propylparaben, phenoxyethanol, diazolidinyl urea, fragrance*.

*Present in KeriR Advanced Moisture Therapy but not KeriR Sensitive Skin Moisture Therapy.

1 ACGIH TLV TWA=American Conference of Governmental Industrial Hygienists Threshold Limit Value Time- Weighted Average for an 8-hour workday, 40-hour work week. TLV-STEL=ACGIH Threshold Limit Value-Short Term Exposure Limit.

2 OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit for an 8-hour workday, 40-hour work week.

3. HEALTH HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE

Routes of Entry:

1. Inhalation: Exposure to this material by inhalation is not expected to occur (lotion). The extent of systematic absorption of the material, if inhalation were to occur, is not known.

2. Skin contact: During manufacture, unwanted exposure may occur if gloves and protective clothing are not worn.

3. Ingestion: Ingestion of large quantities of this material in a use or occupational setting would not be expected to occur. Ingestion of trace amounts of the material might occur if material contacts hands and hands are not washed prior to eating, drinking, or smoking. The extent of systemic absorption of the material after ingestion is not known.

Acute:

1. Ingestion: Inadvertent ingestion of trace amounts of this material would not be expected to result in symptoms.

2. Inhalation: Inhalation of small doses of aerosolized material would not be expected to result in symptoms.

3. Skin Contact
a. Toxic: Dermal toxicity testing has not been done on this product.
b. Irritation: Toxicology testing indicates that KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy are not irritating to the skin.
c. Sensitization : Toxicology testing indicates that these materials do not act as sensitizers (allergens).

4. Eye Contact: The constituents, sodium hydroxide, tocopheryl acetate, cyclopentasiloxane, dimethicone copolyol, propylparaben, phenoxyethanol, and fragrance can cause burning and irritation of the eyes during manufacture. Signs associated with eye irritation may include redness, tearing, swelling, and pain.

Chronic: There are no known chronic effects associated with the use of this product.

Exposure Guideline Summary: The Occupational Safety and Health Administration (OSHA) and the American Conference of Governmental Industrial Hygienists (ACGIH) have established Permissible Exposure Limits (PELs) and Threshold Limit Values (TLVs), respectively, for some constituents in this product. Refer to Section 2 for more information. Bristol-Myers Squibb has not developed an exposure guideline for either of these KeriR products.

Carcinogen Lists IARC: No. NTP: No. OSHA: No.

Target Organs: No known target organs.

Medical Conditions Aggravated by Exposure: None known.

Medical Surveillance Recommendation: None.

For more information refer to Section 11: Toxicological Information.

4. FIRST AID MEASURES

Ingestion: Get medical attention. Do NOT induce vomiting. If vomiting should occur, lower head to below knees to avoid aspiration.

Inhalation: This material is not expected to produce an inhalation exposure at ambient conditions. Remove exposed person to fresh air. If person is not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Get medical attention.

Skin Contact: If contact with constituents of the product should occur during manufacture, remove contaminated clothing. Wash skin with plenty of water for 15 minutes.

Eye Contact: Hold eyelids apart and flush with running water for at least 15 minutes. Get medical attention if signs of irritation develop.

Note to physicians: Products contain some white petrolatum USP (petroleum distillate product). Induction of vomiting is not warranted.

5. FIRE FIGHTING MEASURES

Flash point: > 200 degrees F.

Autoignition Temperature: Not applicable.

Flammability limits
LEL: Not applicable.
UEL: Not applicable.

Combustibility of Dusts: Not applicable.

Extinguishing Media: In case of fire, use carbon dioxide, foam, or dry chemical.

Firefighting Instructions: Firefighters should wear self-contained breathing apparatus, flame and chemical resistant clothing, boots, and gloves. Evacuate personnel to upwind direction, remove unneeded material, and cool containers with water from a maximum distance. Caution should be used when using water or foam as frothing might occur, especially if sprayed into containers of hot, burning liquid.

Hazardous Combustion Products: CO, CO2, NOx, silicon oxides, sodium oxide, formaldehyde, acrolein, acrylate monomers and hydrocarbons.

Unusual Hazards: None.

6. ACCIDENTAL RELEASE MEASURES

Spill/Clean-up: Use wet mop, damp sponge, or wet/dry vacuum. Place collected material in a suitable container for disposal. Do not allow spill to enter sewers or waterways.

7. HANDLING AND STORAGE

Handling Precautions: Avoid unnecessary inhalation, skin, or eye contact with this material.

Container Requirements: Plastic (high density polyethylene) containers as described in Section 1.

Storage Conditions: Store product at room temperature and keep tightly closed.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Ventilation Requirements: Special ventilation requirements are not necessary during use of this product. During manufacture, enclosure of processes or local exhaust ventilation is required.

Respiratory Protection: Respiratory protection is not necessary during use of this product. When product is manufactured, if engineering controls are not sufficient to control dust/mist exposure, wear approved* respiratory protection for dusts/mists that are appropriate for exposure potential. Self-contained breathing apparatus should be available for emergency use.

*NIOSH approves respiratory protection in the United States.

Eye Protection: Wear safety goggles (ANSI Z87.1) during manufacturing. Wear eye protection during occupational use of this product.

Protective Gloves: Protective gloves are not necessary during use of this product.
If the potential exists for dermal contact with the product or its constituents during manufacturing, wear nitrile or low protein, powder free latex gloves. Please note that employees allergic to natural rubber latex should use nitrile gloves.

Special Clothing: Special clothing is not necessary during use of this product.

Wear protective overalls during manufacturing whenever the potential exists for contact with the product or its constituents.

Hygiene: During manufacture, wash hands after handling product constituents or the product before eating, smoking, using lavatory, and at the end of the day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State/Color: Smooth, white, thick liquid.
Boiling point: Not available.
Evaporation rate: Not available.
Flash point: >200 degrees F.
Freezing point/Melting point: Not available.
Octanol/water partition coefficient: Not available.
Odor: KeriR Advanced Moisture Therapy is perfumed.
pH: Not available.
Solubility in water: Not available.
Specific gravity: Not available.

Vapor density: If adequate temperature caused the product to volatilize, its vapor density would be greater than 1 (heavier than air) with the exception of the water present in the product which would rise as steam.
Vapor Pressure: Not available.
Viscosity: More viscous than water.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Incompatibilities: May react with strong oxidizing agents.

Conditions of Reactivity: None known.

Hazardous Decomposition Products CO, CO2, NOx, silicon oxides, sodium oxide, formaldehyde, acrolein, acrylate monomers and hydrocarbons.

Hazardous Polymerization: Will not occur.

Explosion data relative to mechanical impact: Not applicable.

Explosion data relative to static discharge: Not applicable.

11. TOXICOLOGICAL INFORMATION

For KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy unless otherwise indicated.

RTECS # (U.S.): None assigned.

ACUTE: Under normal conditions of use and exposure, KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy do not produce irritation or sensitization.

LD 50 for product: Not available.

LC 50: Not tested.

CHRONIC
Carcinogenicity: KeriR Advanced Moisture Therapy and KeriR Sensitive Skin Moisture Therapy have not been evaluated for carcinogenic potential. These products meet the guidelines of Proposition 65 in California.

Mutagenicity: Material has not been evaluated for mutagenicity.

Teratogenicity: Material has not been evaluated for potential to produce adverse effects on the embryo or fetus.

Reproductive Effects: Material has not been evaluated for reproductive effects.

Toxicological synergistic products: None known.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: Not available.

Chemical Fate Information: Not available.

13. DISPOSAL CONSIDERATIONS

Disposal: Dispose of in accordance with National, State, Local, and applicable country regulations.

14. TRANSPORT INFORMATION

DOMESTIC
Hazard Class (UN #): Not a DOT regulated material.
Proper shipping name: Not applicable.
Label requirements: Not applicable.
Placard requirements: Not applicable.
Limited Quantity Exemption: Not applicable.

INTERNATIONAL
Hazard Class (UN #): Not a regulated material.
Proper shipping name: Not applicable.
Label requirements: Not applicable.
Placard requirements: Not applicable.
Limited Quantity Exemption: Not applicable.

15. REGULATORY/STATUTORY INFORMATION -- not meant to be all inclusive.

U.S. Federal: None noted.

U.S. - California: All levels within these products are acceptable within Proposition 65 limits.

International: None noted.

EC Labeling: Not required.

16. OTHER INFORMATION

February 18, 2003: The MSDS for KeriR Advanced and Sensitive Skin Moisture Therapy was updated to reflect a change in the naming of the substance.

This material safety data sheet (MSDS) is intended for use by personnel who handle this material as part of their job responsibilities or individuals who use the product. It does not address proper techniques for use and application of the product.

Information concerning use and application of this material should be obtained from the container and/or the case containing multiple containers.

The information contained in this MSDS is believed to be accurate and represents the best information available at the time of preparation. However, we make no warranty, express or implied, with respect to such information, and we assume no liability from its use.

C0074a

RECKITT BENCKISER

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	**PROFESSIONAL LYSOL® BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL)**
Product Description	A professional disinfectant spray that kills viruses, bacteria, mold and mildew.
Manufacturer	Reckitt Benckiser Inc. 1655 Valley Road Wayne, N.J. 07474
Product Identifier	EPA Reg. No. 777-72-675; Original Scent, Fresh Scent, Country Scent®, Crisp Linen®, Spring Waterfall™, Summer Breeze™.
Item Number	36241-04675-07
Formula Number	432-124A (F/F 359979) Original Scent, 73-087 (F/F 356593) Fresh Scent, 147-082 (F/F 356595) Country Scent®, 258-011 (F/F 356597) Crisp Linen® Scent, 550-095 (F/F 367851) Spring Waterfall™, 629-183C (F/F 372171) Summer Breeze™ Scent.
UPC Number	36241-04650 Original; 36241-04675 Fresh Scent; 36241-74260 Country Scent; 36241-74827 Crisp Linen® Scent; 36241-75523 Spring Waterfall™ and 36241-74520 Summer Breeze™ Scent, all 19 oz. size.

MSDS#	Not available.
Validation Date	**8/8/2002**
Print Date	8/9/2002

In case of Emergency:	Telephone: 800-677-9218 (Professional Products)
Transportation Emergencies:	Chemtrec: 800-424-9300 (U.S. & Canada)

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits : TLV/PEL
1) CARBON DIOXIDE	124-38-9	4.0	TWA: 9000 (mg/m^3) from ACGIH (TLV) TWA: 5000 (ppm) from ACGIH (TLV) TWA: 9000 STEL: 54 (mg/m^3) from OSHA TWA: 5000 (ppm) from OSHA
2) ETHANOL	64-17-5	79.0	TWA: 1880 (mg/m^3) from ACGIH (TLV) TWA: 1000 (ppm) from ACGIH (TLV) TWA: 1900 (mg/m^3) from OSHA TWA: 1000 (ppm) from OSHA

Section 3. Hazards Identification

Emergency Overview

WARNING: Flammable. Contents under pressure. Causes eye irritation. Do not spray in eyes, on skin or on clothing.

Keep away from heat, sparks and open flame. Exposure to temperatures above 130° F may cause bursting. Do not puncture or incinerate.

KEEP OUT OF REACH OF CHILDREN.

Section 4. First Aid Measures

Eye Contact	Immediately flush eyes thoroughly with water, remove any contact lenses, and continue to flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.
Skin Contact	If on skin, wash with plenty of soap and water. If irritation occurs or persists, get medical attention.
Inhalation	If required, remove to fresh air.
Ingestion	Rinse mouth and drink a glass of water. If symptoms persist, consult a physician. NEVER give an unconscious person anything to ingest.

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Continued on Next Page

Section 5. Fire and Explosion Data

Flammability	Flammable. See Section 14 for any Shipping Classifications.
Flash Point	Not applicable. Aerosol flame extension greater than 18 inches or 45 cm.
Explosive Limits in Air	LOWER: 3.3% UPPER: 19%
Products of Combustion	Not available.
Fire and Explosion Hazards	CONTENTS UNDER PRESSURE. Do not use or store near hear or open flame. Do not puncture or incinerate. Exposure to temperatures above 130° F (55° C) may cause bursting.
Fire Fighting Media and Instructions	Water spray, foam, dry chemical or carbon dioxide. Use media suitable for surrounding fire. Use water spray to cool fire exposed containers.
Special Fire Fighting Instructions	Wear self-contained breathing apparatus and protective equipment appropriate for fighting a typical chemical fire. Move containers away from fire if possible and safe to do so. Provide shielding for venting, rupturing or bursting containers.

Section 6. Accidental Release Measures

Accidental Spill	Small spills: Soak up any spilled liquid with an inert absorbent material and dispose of in an appropriate waste container. Rinse surface reside and flush to sink or sanitary sewer. For large spills due to ruptured containers, eliminate all sources of ignition and ventilate the area with equipment rated for use in flammable environments. Dike, contain and collect liquid and store in metal containers for disposal according to local, state and federal regulations.

Section 7. Handling and Storage

Handling and Storage	WARNING: Flammable. Contents under pressure. Causes eye irritation. Do not spray in eyes, on skin or on clothing. Keep away from heat, sparks and open flame. Do not expose to heat or store at temperatures above 55° C (130° F) as container may burst. Store in original container in cool, dry areas inaccessible to small children. Do not puncture or incinerate container. KEEP OUT OF REACH OF CHILDREN. It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Section 8. Exposure Controls/Personal Protection

Ventilation Requirements	None required under normal use conditions. For occupational situations, use sufficient ventilation to keep hazardous ingredients below their Threshold Limit Values (see Section #2).
Eye Protection	None required under normal use conditions. When handling in large quantities or responding to emergency situations, the use of appropriate eye protection is recommended. Emergency responders should wear full eye and face protection.
Skin Protection	None required under normal use conditions. Emergency responders should wear impermeable gloves.
Respiratory Protection	None required for normal recommended use, avoid prolonged breathing of vapors. A self contained breathing apparatus (SCBA) should be used by emergency responders to avoid inhalation of the vapors which may be generated by this product during spill clean-up or fire situations.
Other Protection	Emergency responders should wear impermeable clothing and footwear when responding to a situation where contact with the liquid is possible.
Work/Hygienic Practices	Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

Continued on Next Page

Section 9. Physical and Chemical Properties

Description	Aerosol container.
pH	10 [Basic.]
Boiling/Condensation Point	Not available.
Specific Gravity	0.835 @ 25°C
Vapor Pressure	95 - 105 psig
Vapor Density	>1 (concentrate)*
Viscosity	Not available.
Solubility	Complete.
Physical Chemical Comments	Not available.

Odor	Various scents. See Section 1.
Color	Clear spray mist.

Section 10. Stability and Reactivity Data

Chemical Stability	The product is stable.
Conditions of Instability	Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F (55° C) may cause bursting.
Incompatibility with Various Substances	Strong oxidizing agents
Hazardous Decomposition Products	Carbon dioxide, carbon monoxide, and unidentified organic compounds may be formed during thermal decomposition.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

Exposure effects

Eye Contact	Causes eye irritation.
Skin Contact	None expected. May cause skin irritation upon prolonged or repeated contact.
Inhalation	None expected.
Ingestion	Ingestion is unlikely through the normal anticipated use of this product. Ingestion of small quantities is not expected to cause any significant adverse effects. Contains denatured ethanol; ingestion may result in ethanol poisoning.
Carcinogenicity	Not listed as carcinogenic by OSHA, NTP or IARC.

Section 12. Ecological Information

Ecotoxicity	Not available.

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Continued on Next Page

Section 13. Disposal Considerations

Waste Disposal	Dispose of in accordance with local, state and federal regulations. Container disposal: Replace cap and discard in trash. Do not puncture or incinerate. Do not reuse empty container.

Section 14. Transport Information

DOT Classification	ORM-D
Proper Shipping Name	Consumer Commodity.
DOT Identification Number	Not applicable
Packing Group	Not applicable
Maritime Transportation	Not applicable.
Hazardous Substances Reportable Quantity	Not applicable.
Special Provisions for Transport	ORM-D: For US Domestic Shipments Only.
TDG Classification	Consumer Commodity - Transborder Consignment.
ADR Classification	Not applicable.
IDG Classification	Aerosols, class 2.1 UN1950 - Limited Quantity.
IATA Classification	Aerosols, 2.1, UN1950, Limited Quantity.

Section 15. Regulatory Information

Federal and State Regulations	SARA Title III, Section 313 Toxic Chemical Notification & Release Reporting: None California Proposition 65: This product contains the following ingredients which require a warning under the Safe Drinking Water & Toxic Enforcement Act: None
Other Classifications	**WHMIS (Canada)** CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
New Jersey Right-To-Know Regulation:	NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW ACT: This EPA Registered Product is exempt from the labeling requirements of the above act. N.J.A.C. 8:59-5.5 #1.

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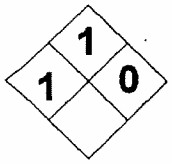
Continued on Next Page

Section 16. Other Information

HMIS (U.S.A.)

Health Hazard	1
Fire Hazard	3
Reactivity	0
Personal Protection	D

National Fire Protection Association (U.S.A.)



Health

Fire Hazard

Reactivity

Specific hazard

	NFPA Aerosol Level 1, per NFPA 30B
Validated by Product Safety on 8/8/2002.	**Printed 8/9/2002.**

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Product: 870040 PLEXIGLAS PLUS ANTI-STAT CLNR/PROTECTANTEffective : 01/27/99
Emergency Phone # (800) 255-3924 Supersedes: 08/17/90
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION I-PRODUCT IDENTIFICATION ***

******* MANUFACTURER *******
GENLABS
PO BOX 1697

CHINO, CA 91708-/10
(909) 591-8451

****** DISTRIBUTED BY ******
WAXIE SANITARY SUPPLY
Corporate Headquarters
9353 Waxie Way
San Diego, CA 92123
(858) 292-8111
Tom Seaton
Director of Product Management

HAZARD RATING	HMIS	NFPA
Health :	not available	0 Insignificant
Flammability :	not available	0 Insignificant
Reactivity :	not available	0 Insignificant

*** SECTION II-HAZARDOUS INGREDIENTS/IDENTITY INFORMATION ***

CAS #	INGREDIENTS	WEIGHT %
67-63-0	Isopropyl Alcohol	

EXPOSURE LIMIT : -
: OSHA PEL - 400 ppm (980mg/m3)
: OSHA STEL - 500 ppm (1225mg/m3)
: ACGIH TLV - 400ppm (983mg/m3)
: ACGIH STEL - 500 ppm (1230mg/m3)

*** SECTION III-PHYSICAL DATA ***

APPEARANCE/ODOR.....: Opaque White, Bland Odor.
SPECIFIC GRAVITY.....: 1.001
VAPOR PRESSURE - (mm Hg).....: Not Tested
PERCENT VOLATILE BY VOLUME (%)....:
SOLUBILITY IN WATER.....: 100%
VAPOR DENSITY (Air=1).....: Not Tested
FREEZING POINT (*F).....:
BOILING POINT (*F).....: >212 deg F
ph.....: 6.5 - 8.0
EVAPORATION RATE (Butyl Acetate=1): Not Tested
VOC.....: 49.8 g/L
THEORETICAL VOC (lb/gal).....:

*** SECTION IV-FIRE AND EXPLOSION INFORMATION ***

FLASH POINT (*F) (Method Used):
None
FLAMMABLE LIMITS:
Not Tested. LEL / UEL: Not Tested
EXTINGUISHING MEDIA:
None
SPECIAL FIREFIGHTING PROCEDURES:
None
UNUSUAL FIRE AND EXPLOSION HAZARDS:
None

Product: 870040 PLEXIGLAS PLUS ANTI-STAT CLNR/PROTECTANTEffective : 01/27/99
Emergency Phone # (800) 255-3924 Supersedes: 08/17/90
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION V-HEALTH HAZARD DATA ***

PRIMARY ROUTE OF ENTRY:
Inhalation, Skin, Ingestion

SIGNS AND SYMPTOMS:
Eyes: Burning sensation.
Skin: Not expected to be a problem.
Ingestion: Nausea.
Inhalation: Not expected to be a problem.

FIRST AID PROCEDURES:
Eyes: Flush with water for 15 minutes. If irritation persists, call a physician.
Skin: Wash off with soap and water.
Ingestion: Drink Large amounts of Water, Call physician.
Inhalation: See above.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:
Same as signs and symptoms of over exposure.

*** SECTION VI-REACTIVITY DATA ***

STABILITY:
Stable.

STABILITY-CONDITIONS TO AVOID:
None

INCOMPATIBILITY:
Strong oxidizers, Heat, Flames

HAZARDOUS DECOMPOSITION PRODUCTS:
CO, CO2

HAZARDOUS POLYMERIZATION:
None

HAZARDOUS POLYMERIZATION-CONDITIONS TO AVOID:
None

*** SECTION VII-SPILL OR LEAK PROCEDURES ***

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Soak up with inert, absorbent material. Scoop up and place in a proper waste disposal container.

WASTE DISPOSAL INFORMATION:
Dispose of in accordance with state and local regulations.

*** SECTION VIII-SPECIAL PROTECTION INFORMATION ***

RESPIRATORY PROTECTION:
Open all doors and windows. If there is an exposure, and it is above TLV or PEL, a NIOSH approved respirator equipped for the exposure or suitable respiratory protection per 29 CFR 1910.134, is required.

VENTILATION:
Local exhaust: If available. Special: None.
Mechanical: If available. Other: None.

PROTECTIVE GLOVES:
None.

EYE PROTECTION:
None.

Product: 870040 PLEXIGLAS PLUS ANTI-STAT CLNR/PROTECTANTEffective : 01/27/99
Emergency Phone # (800) 255-3924 Supersedes: 08/17/90
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION VIII-SPECIAL PROTECTION INFORMATION ***

OTHER PROTECTIVE MEASURES:

Use common sense and care around chemicals. Never mix chemicals. Consult your Supervisor for other practices. All practices depend on your specific business. Directions for use are normally found on label which will dictate engineering and control measures.

*** SECTION IX-SPECIAL PRECAUTIONS ***

PRECAUTIONARY LABELING:

Keep out of reach of children. Follow directions on the container for proper use of this product.

OTHER HANDLING AND STORAGE CONDITIONS:

Store in a cool dry place, out of direct sunlight. Do not freeze, less than or equal to 32 deg F or heat above 110 deg F.

*** SECTION X-ADDITIONAL INFORMATION ***

ADDITIONAL INFORMATION:

Note: All chemicals incorporated into this product are found on the TSCA Inventory List.

*** SECTION XI-TRANSPORTATION INFORMATION ***

DOT CLASS:

OT #:

None

SHIPPING NAME:

DOT NOTES:

*** SECTION XII-REGULATORY INFORMATION ***

Note: Genlabs believes the data set forth are accurate, Genlabs makes no warranty with respects thereto and disclaims all liability for reliance thereon. Such data are offered solely for consideration, investigation and verification. Also, the data set forth is for the concentrated finished product.

The disclosures and information set forth on this sheet were provided by manufacturers and distributors who provide product(s) for WAXIE. WAXIE does not warrant the accuracy, completeness or legality of such disclosures or information or that WAXIE has correctly and completely reproduced and copied the same.

MATERIAL SAFETY DATA SHEET
(PREPARED ACCORDING TO 29 CFR 1910.1200)

IDENTITY (As Used on Label): SHEILA SHINE LIQUID

:ction 1 - Product Identification

Manufactured By:
SHEILA SHINE, INC.
Address:
1201 N.W. FIRST AVENUE
MIAMI, FLORIDA 33136

Emergency Telephone number
(800)255-3924 CHEMTEL
Telephone # for Information
(800) 633-0481

Date Prepared: 01-31-02

Section 2-Hazardous Ingredients/Identity Information

Ingredients		OSHA PEL	ACGIH TLV	OTHER	%
PERCHLOROETHYLENE	CAS# 127-18-4	--	100 PPM		18-20
METHYL SALICYLATE	CAS# 119-36-8	--	--		APX .1
XYLENE	CAS# 1330-20-7		100ppm		18-20
HEAVY PARAFFINIC DISTILLATE	CAS# 64742-54-7	--	--		59-61

ALL COMPONENTS ARE LISTED ON THE TSCA LIST.

THE ONLY ONE OF THE ABOVE INGREDIENTS THAT IS A SUSPECTED CARCINOGEN IS PERCHLOROETHYLENE WHICH IS 19% OF TOTAL FORMULATION.

:ction 3-Physical/Chemical Characteristics

Boiling Point: N/A
Vapor Pressure (mm Hg): 3.9
Vapor Density (Air=1): 5.4
Solubility in Water: INSOLUBLE

Specific Gravity (H2O=1): .983 @25 C
Melting Point: N/A
Evaporation Rate (Butyl Acetate): N/A
Appearance and Odor: SOLVENT ODOR – WINTERGREEN

Section 4-Fire and Explosion Hazard Data

Flash Point (Method Used): 110F
Flammable Limits: N/A LEL: N/A UEL: N/A
Extinguishing Media: DRY CHEMICAL, FOAM
Special Firefighting Procedures: WEAR SELF-CONTAINED BREATHING APPARATUS. HELMET WITH SHIELD. BOOTS AND COAT.

Unusual Fire and Explosive Hazards: ISOLATE FROM OXIDIZERS. OPEN FLAMES OR SPARKS.

NFPA Rating:
HEALTH 2 FLAMMABILITY 2 REACTIVITY 0 SPECIAL –

HMIS Rating:
HEALTH 1 FLAMMABILITY 2 REACTIVITY 0 PERSONAL PROTECTION 0

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ection 5-Reactivity Data

Stability: Stable_XX_ Unstable__

Conditions to Avoid: ISOLATE FROM OXIDIZERS, OPEN FLAM AND SPARKS (ELECTRICAL)

Incompatibility (Materials to Avoid): ISOLATE STRONG OXIDIZERS, SUCH AS CHROMATES AND PEROXIDES
Hazardous Decomposition or By-products: CARBON MONOXIDE, CARBON DIOXIDES
Hazardous Polymerization: May Occur__ Will Not Occur_XX_
onditions to Avoid: OXIDIZERS, OPEN FLAMES, SPARKS

Section 6-Health Hazard Data

Routes of Entry: Inhalation_XX_ Skin_XX_ Ingestion: _XX_

Health Hazards (Acute and Chronic):
Eye Contact: FLUSH WITH FOR 15 MINUTES, CONTACT A PHYSICIAN
Inhalation: REMOVE TO FRESH AIR, IF BREATHING IS DIFFICULT, GIVE OXYGEN.
Skin Contact: REMOVE CONTAMINATED CLOTHING - WASH THOROUGHLY WITH SOAP & WATER FOR 15 MINUTES.

Ingestion: IF SWALLOWED DO NOT INDUCE VOMITING – CALL PHYSICIAN IMMEDIATELY.

Carcinogenicity:	NIP?	IARC Monographs	OSHA Regulated
	NO	NO	NO

Signs and Symptoms of Overexposure: DIZZINESS, NAUSEA

Medical Conditions Generally Aggravated by Exposure: VOMITING, DIARRHEA, IRRITATION TO EYES, NOSE AND THROAT

Emergency and First Aid Procedures:

Section 7-Precautions for Safe Handling & Use

Steps to be taken in Case Material is Released or Spilled: USE ABSORBENT MATERIAL TO SOAK UP SPILL – DIKE ARE IF NEEDED. VENTILATE AREA, MOP UP AND DISPOSE OF. FOLLOW HAZARD PRECAUTION AS PRESCRIBED BY STATE, LOCAL AND FEDERAL REGULATIONS.

Waste Disposal Method: RECYCLE OR DISPOSE OF, OBSERVING STATE, LOCAL AND FEDERAL REGULATIONS.

Precautions to be taken in Handling and Storage: STORE IN COOL, WELL VENTILATED AREA. CONTAINER SHOULD BE TIGHTLY SEALED

Other Precautions:

Section 8-Control Measures

Respiratory Protection (Specific Type): IF NEEDED, USE MSRA / NTUSH RESPIRATOR ORGANIC VAPORS.

Ventilation:	Local Exhaust: NECESSARY	Special:
	Mechanical (General):	Other:

Protective Gloves: CHEMICAL RESISTANT
Eye Protection: SAFETY GLASSES
Other Protective Clothing or Equipment:

THIS INFORMATION IS OFFERED IN GOOD FAITH WITHOUT GUARANTEE. CONDITIONS ARE BEYOND OUR CONTROL. USER ASSUMES ALL RESPONSIBILITY AND RISK.

MATERIAL SAFETY DATA SHEET
PREPARED: 10/27/95
REVISED: 03/17/95
TIME PRODUCTS, INC.
3780 BROWNS MILL ROAD SE

V.L. WHITE GLOVE HAND SOA1901
EMERGENCY PHONE: (800) 255-3924
NIGHTS/WEEKEND

SOLD BY:
TIME PRODUCTS, INC.

HMIS/NFPA	
HEALTH	0
FLAMMABILITY	0
REACTIVITY	0

SECTION II HAZARDOUS INGREDIENTS

% BY WGT	HAZARDOUS INGREDIENTS (CAS #)	OSHA PEL	ACGIH TLV	OTHER LIMITS
	NONE (N/A)	N/A	N/A	N/

SECTION 313 SUPPLIER NOTIFICATION

* INDICATES HAZARDOUS INGREDIENTS WHICH ARE TOXIC CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 AND OF 40 CFR 372.

THE CHEMICAL NAME, CAS #, AND PERCENT BY WEIGHT INFORMATION MUST BE INCLUDED IN ALL MSDS COPIED AND DISTRIBUTED FOR THIS MATERIAL

SECTION III--PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 212 DEGREES F. SPEC. GRAVITY(WATER=1):1.03
VAPOR PRESSURE (mm. HG):SAME AS WATER MELTING POINT:N/A
VAPOR DENSITY(AIR=1):SAME AS WATER EVAPORATION RATE(BuAc=1):SAME AS WATER
SOLUBILITY IN WATER: COMPLETE
pH OF CONCENTRATE: 7.2
APPEARANCE AND ODOR: PEARLESCENT, VISCOUS WHITE LIQUID, ALMOND ODOR.

SECTION IV---FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): NONE FLAMMABLE LIMITS: NONE
LEL: N/A UEL: N/A
EXTINGUISHING MEDIA: NONE
SPECIAL FIREFIGHTING PROCEDURES: NONE
UNUSUAL FIRE & EXPLOSION HAZARDS:NONE

SECTION V--REACTIVITY DATA

PRODUCT IS STABLE.
CONDITIONS TO AVOID: N/A
INCOMPATIBLITY (MATERIALS TO AVOID): AVOID STRONG OXIDIZERS
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: ON INCINERATION, ANY RESIDUE WILL PRODUCE OXIDES OF CARBON.
HAZARDOUS POLYMERIZATION WILL NOT OCCUR
CONDITIONS TO AVOID:N/A

ECTION VI-----HEALTH HAZARD DATA----------

ROUTE(S) OF ENTRY:
INHALATION: NO SKIN: NO INGESTION: UNLIKELY
ALTH HAZARDS (ACUTE & CHRONIC):CAUSES EYE IRRITATION.
ARCINOGENCITY: NTP: NO IARC MONGRAPHS: NO OSHA REGULATED: NO
SIGNS & SYMPTOMS OF EXPOSURE: EYE IRRITATION.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:NONE KNOWN.

********** EMERGENCY AND FIRST AID PROCEDURES **********

SKIN CONTACT: N/A THIS PRODUCT IS A HAND SOAP.
EYE CONTACT: FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.
IF IRRITATION PERSISTS SEE AN EYE DOCTOR.
INGESTION: DRINK PLENTY OF WATER OR MILK, CONSULT A PHYSICIAN.

ECTION VII----PRECAUTIONS FOR SAFE HANDLING AND USE----------

SPILL STEPS:LARGE SPILLS SHOULD BE RECOVERED FOR USE. SMALL
SPILLS CAN BE ABSORBED WITH SAND OR "OIL DRI".
WASTE DISPOSAL METHOD: LANDFILL IN ACCORDANCE WITH LOCAL, STATE, AND
FEDERAL REGULATIONS.
STORAGE & HANDLING:STORE IN A COOL, DRY AREA. KEEP CONTAINER
CLOSED WHEN NOT IN USE. KEEP OUT OF REACH OF CHILDREN.

ECTION VIII---CONTROL MEASURES----------

RESPIRATORY PROTECTION: NONE
VENTILATION: LOCAL EXHAUST:ADEQUATE
SPECIAL: N/A
MECHANICAL: N/A
THER: N/A
ROTECTIVE GLOVES:N/A
EYE PROTECTION:GLASSES OR GOGGLES
OTHER PROTECTIVE EQUIP/CLOTHING: NONE REQUIRED
WORK/HYGENIC PRACTICES: KEEP CONTAINER CLOSED WHEN NOT IN USE.

WE BELIEVE ALL INFORMATION GIVEN IS ACCURATE. IT IS OFFERED IN GOOD FAITH, BUT WITHOUT GUARANTEE. SINCE CONDITIONS ARE BEYOND OUR CONTROL, USER ASSUMES ALL RESPONSIBLITY AND RISK.

UNISOURCE WORLDWIDE, INC.
1100 CASSATT ROAD
BERWYN, PA 19312-0935
Call nearest Sales Office for MSDS Information 1-800-864-7687

EMERGENCY NO. 1-800-535-5053 (INFOTRAC)

SECTION 1. IDENTIFICATION OF PRODUCT

Product Name: TWISTER POWER CLEANER/DEGREASER
Date Issued: 02/08/99
Supersedes: 08/28/97
Unisource Item #: U17766, U17767, U17768, U17769, U17770, U17771, U17772

SECTION 2. INGREDIENTS

INGREDIENTS	CAS NUMBER	PERCENT	EXPOSURE LIMITS IN AIR OSHA PEL	ACGIH TLV
* 2-BUTOXYETHANOL	111-76-2	4-5	25 PPM	25 PPM
MONOETHANOLAMINE	141-43-5	2-3	3 PPM	3 PPM

* THIS (THESE) MATERIAL(S) ARE SUBJECT TO THE REPORTING REQUIREMENTS UNDER SARA TITLE III, SECTION 313 AND 40 CFR PART 372.
N/D = NOT DETERMINED
N/E = NOT ESTABLISHED
N/A = NOT APPLICABLE
PROP. = PROPRIETARY

SECTION 3. PHYSICAL DATA

BOILING POINT (F): LT 212
SPECIFIC GRAVITY (CONCENTRATE)(WATER=1): 1.015
VAPOR PRESSURE (PSIG): (@70F - AEROSOL) N/A
VAPOR PRESSURE (NON-AEROSOLS; MM HG): N/A
VAPOR DENSITY (AIR=1): N/D
EVAPORATION RATE (WATER=1): 1
SOLUBILITY IN WATER: SOLUBLE
PERCENT SOLIDS (2HRS. @ 110C)(BY VOLUME): 2.2%
PH RANGE: 13.5-14
VISCOSITY (BROOKFIELD SPIN. #3 @ 30 RPM): LT 25 CPS
MELTING POINT: N/A
FREEZING POINT: N/D
% VOC: 5.25% (MEETS CARB REQUIR.)
WATER REACTIVE: NONE
GALLON WEIGHT: 8.462 LBS./GAL.
% PHOSPHOROUS: NONE
APPEARANCE/ODOR: CLEAR, GREEN LIQUID; FLORAL SCENT.

SECTION 4. FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY (AS PER USA FLAME PROJECTION TEST): N/A
FLASH POINT (NON-AEROSOLS): NON-FLAMMABLE
AUTO-IGNITION TEMP.: N/A
FLAMMABLE LIMITS: LEL=N/A UEL=N/A

EXTINGUISHING MEDIA: CO_2, DRY CHEMICAL, FOAM, WATER SPRAY.

SPECIAL FIRE FIGHTING PROCEDURES: COOL AND USE CAUTION WHEN APPROACHING OR HANDLING FIRE-EXPOSED CONTAINERS.

UNUSUAL FIRE & EXPLOSION HAZARDS: CONTAINERS MAY BURST IN HEAT. TOXIC GASES AND VAPORS MAY BE RELEASED UPON BURNING.

Product Name: TWISTER POWER CLEANER/DEGREASER
Date Issued: 02/08/99
Supersedes: 08/28/97
Unisource Item#: U17766, U17767, U17768, U17769, U17770, U17771, U17772

SECTION 5. REACTIVITY DATA

STABILITY: STABLE

CONDITIONS TO AVOID: STRONG OXIDIZERS AND ACIDS; ANIONIC COMPOUNDS.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

MATERIALS TO AVOID: OXIDIZING MATERIALS.

HAZARDOUS DECOMPOSITION PRODUCTS: PRODUCES NORMAL PRODUCTS OF COMBUSTION WHEN EXPOSED TO FIRE.

SECTION 6. SPILL, LEAK AND DISPOSAL PROCEDURES

SPILLS: (SMALL SPILLS): DILUTE WITH WATER AND PICK UP WITH MOP AND PAIL OR WET/DRY VACUUM. (LARGE SPILLS): KEEP OUT OF SURFACE WATERS AND ANY SEWERS OR WATERCOURSES ENTERING OR LEADING TO SURFACE WATERS. DIKE AREA TO CONTAIN SPILL. SOAK UP WITH INERT ABSORBENT AND PLACE IN PROPERLY LABELED LEAK-PROOF CONTAINERS FOR DISPOSAL.

DISPOSAL: WASTE FROM SMALL AMOUNTS OF DILUTED PRODUCT MAY BE FLUSHED TO SEWER. UNDILUTED PRODUCT RECOVERED FROM SPILLS MAY BE SENT TO LICENSED DISPOSAL FACILITY TO BE DISPOSED OF IN ACCORDANCE WITH FEDERAL/STATE REGULATIONS AND LOCAL ORDINANCES.

CONTAIN. DISP.: TRIPLE RINSE EMPTY CONTAINER THOROUGHLY WITH WATER AND DISCARD IN REGULAR TRASH COLLECTION IF ALLOWED BY FEDERAL/STATE REGULATIONS AND LOCAL ORDINANCES.

SECTION 7. HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: EYES, SKIN.

ACUTE EFFECTS:
OVEREXPOSURE SYMPTOMS:
EYE CONTACT: EYE IRRITANT. IF NOT PROMPTLY TREATED, EYE DAMAGE MAY RESULT.

SKIN CONTACT: SKIN IRRITANT. IRRITATION CAN OCCUR FROM CONTACT WITH CONCENTRATED PRODUCT OR FROM PROLONGED CONTACT WITH DILUTED PRODUCT.

INHALATION: NONE KNOWN TO UNISOURCE UNDER NORMAL USE IN WELL VENTILATED AREAS. HIGH AIRBORNE CONCENTRATIONS OF MST MAY CAUSE IRRITATION OF THE UPPER RESPIRATORY TRACT.

INGESTION: MAY CAUSE STOMACH PAIN/CRAMPS, VOMITING AND NAUSEA.

CHRONIC HEALTH HAZARDS: NONE KNOWN

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: PRE-EXISTING IRRITATION OF SKIN OR MUCOUS MEMBRANES.

Product Name: TWISTER POWER CLEANER/DEGREASER
Date Issued: 02/08/99
Supersedes: 08/28/97
Unisource Item #: U17766, U17767, U17768, U17769, U17770, U17771, U17772

SECTION 8. EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: IMMEDIATELY FLUSH THE EYE WITH LARGEQUANTITIES OF FRESH, RUNNING WATER FOR A MINIMUM OF 15 MINUTES. HOLD THE EYELIDS APART DURING THE IRRIGATION TO ENSURE FLUSHING OF THE ENTIRE SURFACE OF THE EYELID WITH WATER. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

SKIN CONTACT: WASH AFFECTED AREA WITH SOAP AND WARM WATER. REMOVE AND LAUNDER CONTAMINATED CLOTHING AND SHOES BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

INHALATION: MOVE PERSON TO FRESH AIR. IF SYMPTOMS OF RESPIRATORY DISCOMFORT PERSIST, GET MEDICAL ATTENTION.

INGESTION: REQUIRES IMMEDIATE MEDICAL MANAGEMENT. DO NOT INDUCE VOMITING. DRINK MILK OR WATER. VOMITING SHOULD BE INDUCED ONLY ON RECOMMENDATION OF MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

NOTES TO PHYSICIANS: NONE PROVIDED.

SECTION 9. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NONE REQUIRED UNDER NORMAL USE WITH PROPER VENTILATION.

VENTILATION: ROOM VENTILATION SHOULD BE ADEQUATE.

PROTECTION GLOVES: LATEX OR RUBBER GLOVES RECOMMENDED TO MINIMIZE SKIN CONTACT.
EYE PROTECTION: EYE GLASSES RECOMMENDED WHEN USING CONCENTRATE. AVOID CONTACT WITH EYES.
OTHER MEASURES: AVOID FOOD CONTAMINATION. PROTECTIVE EQUIPMENT AS REQUIRED TO MINIMIZE SKIN AND EYE CONTACT. EYEWASH ACCESSIBILITY RECOMMENDED.
HYGIENIC WORK PRACTICES: DO NOT EAT, DRINK OR SMOKE IN WORK AREA. WASH HANDS AFTER HANDLING.

SECTION 10. ADDITIONAL PRECAUTIONS

HANDLING AND STORAGE: STORE IN COOL, DRY PLACE. REPLACE CAP AFTER USE.

OTHER SPECIAL HAZARDS: KEEP OUT OF REACH OF CHILDREN. READ AND FOLLOW LABEL DIRECTIONS.

TSCA INVENTORY STATUS: N/D

SARA TITLE III RATINGS:
ACUTE: YES
CHRONIC: NO
FIRE: NO
PRESSURE RELEASE: NO
REACTIVITY: NO

HMIS RATINGS: HEALTH-2 FIRE-0 REACTIVITY-1 PROTECTION-B

NFPA RATINGS: HEALTH-2 FIRE-0 REACTIVITY-0 SPECIAL-

Product Name: TWISTER POWER CLEANER/DEGREASER
Date Issued: 02/08/99
Supersedes: 08/28/97
Unisource Item #: U17766, U17767, U17768, U17769, U17770, U17771, U17772

SECTION 11. REGULATORY (OPTIONAL)

HM-181 PROPER SHIPPING NAME (DOT): COMPOUNDS, CLEANING LIQUID
(CONTAINS ETHANOLAMINE)
PROPER SHIPPING NAME CODE: 8
UN/NA NUMBER: 1760
PG#: III

CARCINOGEN LISTING: NONE OF THE COMPONENTS PRESENT IN THIS MATERIAL AT CONCENTRATIONS EQUAL TO OR GREATER THAN 0.1% ARE LISTED BY IARC, NTP, OSHA OR ACGIH AS A CARCINOGEN.

VOC CONTENT:
THEORETICAL = 5.25% ( ) LB/GAL.
TYPICAL ANALYTICAL = N/D LBS./GAL.
PHOSPHOROUS: % CONCENTRATE = NONE
DILUTION RANGE: N/A - N/A GMS./GAL.

THE INFORMATION ON THIS MATERIAL SAFETY DATA SHEET REPRESENTS THE LATEST DATA AND BEST OPINION AS TO PROPER USE/HANDLING OF THIS PRODUCT UNDER NORMAL CONDITIONS. ANY USE OF THIS PRODUCT OR METHOD OF APPLICATION WHICH IS NOT IN CONFORMANCE WITH THIS DATA SHEET AND THE PRODUCT LABEL DIRECTIONS IS THE RESPONSIBILITY OF THE USER. THIS MATERIAL SAFETY DATA SHEET WAS PREPARED TO COMPLY WITH OSHA HAZARD COMMUNICATION REGULATIONS.

BECKMAN COULTER™

MATERIAL SAFETY DATA SHEET

Section 1 Company and Product Identification

Product Name	Silicone Vacuum Grease
Part Number	335148
Manufacturer	Beckman Coulter, Inc. 4300 Harbor Blvd. Fullerton, CA 92834-3100, U.S.A.
Distributor and Emergency Phone No.	Refer to attached list, Document ID: 472050, for local distributor and emergency phone numbers.

Doc. ID *335148-75 AA*
Issued (day/month/year) *19/07/2000*

Section 2 Composition and Information on Ingredients

Hazardous Ingredients: **None**

Section 3 Hazards Identification

Emergency Overview

White; Translucent; Viscous liquid; Odorless
Nonflammable gel.
Does not meet EU, OSHA or WHMIS criteria for hazardous materials.

Physical Hazards	No physical hazards were determined from a review of available literature.		
Potential Health Effects Summary	This product does not meet EU, OSHA or WHMIS criteria for hazardous materials.		
Product Hazard Classifications	**EU:** Not applicable	**WHMIS:** Not applicable	**US OSHA:** Not applicable

Section 4 First Aid Measures

Inhalation	If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.
Eye Contact	If product is splashed in eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. If pain or irritation occur, obtain medical attention.
Skin Contact	In case of skin contact, wash area with soap and water. Rinse well with water.
Ingestion	If product is swallowed, call physician or poison control center for most current information. Never induce vomiting or give liquids to someone who is unconscious or cannot swallow.

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Section 5 Fire Fighting Measures

Flash Point	100°C(212°F)
Flammable Limits	Not applicable
Autoignition Temp.	Not applicable
Extinguishing Media	Use extinguishing media suitable for surrounding fire.
Special Fire and Explosion Hazards	No special hazards determined.
Hazardous Combustion Products	Due to the composition and volume of this product, combustion products generated from it are not expected to present a significant hazard.
Protective Equipment for Firefighters	Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

Section 6 Accidental Release Measures

Personal Precautions	No special precautions are necessary. Use good laboratory procedures.
Spill and Leak Procedures	Wipe up spill and place in container suitable for disposal.
Environmental Precautions	Contain spill to prevent migration.

Section 7 Handling and Storage

Handling Precautions	No special precautions are necessary; use good laboratory procedures.
Recommended Storage Conditions	Keep in the original container at room temperature.

Section 8 Exposure Controls and Personal Protection

Exposure Limits	
US OSHA:	None established
ACGIH:	None established
DFG MAK:	None established
Engineering Controls	No special engineering controls are required. Use with good general ventilation.
Respiratory Protection	Under normal conditions, the use of this product should not require respiratory protection.
Eye Protection	Safety glasses are recommended to prevent eye contact.
Skin Protection	Impervious gloves are recommended to prevent repeated or prolonged skin contact.

Section 9 Physical and Chemical Properties

Physical State	Viscous liquid

Section 9 Physical and Chemical Properties (Continued)

Color	White
Transparency	Translucent
Odor	Odorless
Odor Threshold	Not applicable
pH	Not applicable
Boiling Point	>35°C(95°F)
Melting Point	Not available
Specific Gravity	1.1 @20°C
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Evaporation Rate	Not applicable
Coefficient of Water/Oil Distribution	Not available
Percent Volatiles	Not available
Solubility	
Water	Not available
Organic	Not available

Section 10 Stability and Reactivity

Stability	Stable under normal temperatures and pressures.
Hazardous Incompatibilities	No hazardous incompatibilities were determined from a review of literature available.
Hazardous Decomposition Products	Decomposition products posing significant hazards are not expected from the small volume of this product present during normal use.
Conditions to Avoid	None determined.

Section 11 Toxicological Information

Toxicity Data for Hazardous Ingredients	Not applicable
Primary Routes of Exposure	The most likely routes of exposure are skin and eye contact.
Potential Effects of Acute Exposure	None identified.
Potential Effects of Chronic Exposure	None identified.
Symptoms of Overexposure	None identified.
Carcinogenicity	This product does not contain a reportable concentration (≥ 0.1%) of any ingredient listed as carcinogen by ACGIH, IARC, NTP, OSHA or 67/548/EEC Annex I.

Section 11 Toxicological Information (Continued)

Other Effects	None identified.
Conditions Aggravated by Exposure	None identified.

Section 12 Ecological Information

Ecotoxicity	No information available.
Biodegradability	No information available.
Mobility	No information available.

Section 13 Disposal Considerations

Waste Disposal	Dispose of waste product, unused product and contaminated packaging in compliance with federal, state and local regulations. If unsure of the applicable requirements, contact the authorities for information.

Section 14 Transport Information

Transportation of this product is not regulated under ICAO, IATA, US DOT, European ADR or Canadian TDG.

Section 15 Regulatory Information

US Federal and State Regulations

SARA 313	No ingredients listed
CERCLA RG's, 40 CFR 302.4	No ingredients listed
California Proposition 65	No ingredients listed
Massachusetts MSL	Silicone Dioxide, chemically prepared is listed.
New Jersey Dept. of Health RTK List	Silicone Dioxide, chemically prepared is listed.
Pennsylvania RTK	Silicone Dioxide, chemically prepared is listed.

EU

Dangerous Ingredients	None

Canada

This product does not meet WHMIS criteria for hazardous materials.

PIN:	Not applicable
Ingredients on Ingredient Disclosure List:	Silicone Dioxide, chemically prepared
Ingredients with unknown toxicological properties:	None

Section 16 Other Information

For further information, please contact your local Beckman Coulter representative.

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Printed in U.S.A.

JohnsonDiversey
Clean is just the beginning

Material Safety Data Sheet

VEXAL PLUS (HEAVY DUTY)

National Fire Protection Association (NFPA)	Fire Hazard / Health / Reactivity / Specific Hazard	Hazardous Material Information System (HMIS)	
		Health	2
		Fire Hazard	0
		Reactivity	0

Protective Clothing None required.

Emergency Overview Orange. Liquid. See Section 9.
CAUTION: MAY BE HARMFUL IF SWALLOWED. MAY CAUSE EYE IRRITATION.

Section 1. Chemical Product and Company Identification

Product Name	VEXAL PLUS (HEAVY DUTY)	**Code**	4532
Product Use	Industrial/Institutional: Floor care.	**PMS#**	454682
MSDS#	126705003	**Validation Date**	2/6/2003
		Print Date	2/6/2003
		Supersedes	9/25/2002.
		In Case of Emergency	(800) 851-7145

U.S. Headquarters
JohnsonDiversey, Inc.
8310 16th Street
Sturtevant, Wisconsin 53177-0902
Phone: (800) 725-6737
MSDS Internet Address:
www.johnsondiversey.com

Canadian Headquarters
JohnsonDiversey - Canada, Inc.
2401 Bristol Circle
Oakville, Ontario L6H 6P1
Phone: 1-888-746-5971

Section 2. Composition and Information on Ingredients

Ingredients	CAS #	% by Weight	Exposure Limits	LC50/LD50
Ammonium Bifluoride	1341-49-7	1-5	**ACGIH TLV (United States).** TWA: 2.5 mg/m³	Not available.
Dodecylbenzene Sulfonic Acid	68584-22-5	1-5	Not available.	Not available.
Sodium Alkyl Sulphonate	68608-26-4	1-5	Not available.	Not available.
Sodium Xylene Sulfonate	1300-72-7	1-5	Not available.	Not available.
Water	7732-18-5	60-100	Not available.	Not available.

Section 3. Hazards Identification

Routes of Entry Inhalation. Skin contact. Eye contact.

Potential Acute Health Effects

Eyes May be moderately irritating to eyes.

Skin May be mildly irritating to skin.

Inhalation None known.

Ingestion May be harmful if swallowed. Ingestion may cause gastrointestinal irritation and diarrhea.

Medical Conditions Aggravated by Overexposure: None known.

See Toxicological Information (section 11)

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Flush immediately with plenty of water. Get medical attention if irritation occurs.
Skin Contact	Flush immediately with plenty of water. Get medical attention if irritation occurs.
Inhalation	No specific first aid measures are required.
Ingestion	Immediately drink 1-2 glasses of water or milk. If ingested, call a physician or Poison Control Center immediately. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Section 5. Fire Fighting Measures

Flammability of the Product	None known.
Flash Points	Not available.
Products of Combustion	None known.
Fire Fighting Media and Instructions	Extinguish with water spray or carbon dioxide, dry chemical powder or appropriate foam. Normal fire fighting procedure may be used.
Special Remarks on Fire and Explosion Hazards	None known.

Section 6. Accidental Release Measures

Personal Precautions	Put on appropriate personal protective equipment (see Section 8.).
Environmental Precautions and Clean-up Methods	In the event of major spillage: Use appropriate containment to avoid environmental contamination. Sweep or scrape up material. Place in suitable clean, dry containers for disposal by approved methods. Use a water rinse for final clean-up.

Section 7. Handling and Storage

Handling	Do not taste or swallow. Avoid contact with skin and eyes. Wash thoroughly after handling. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.
Storage	Protect from freezing. Store in a dry, cool and well-ventilated area. KEEP OUT OF REACH OF CHILDREN.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	No special ventilation requirements. General room ventilation is adequate.
Personal Protection	
Eyes	No special requirements under normal use conditions.
Hands	No special requirements under normal use conditions.
Respiratory	No special requirements under normal use conditions.
Feet	No special requirements under normal use conditions.
Body	No special protective clothing is required.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.
Odor	Mild.
Color	Orange. (Light.)
pH	4-5
Specific Gravity	1.02
Solubility in water	Complete.

Continued on Next Page

Section 10. Stability and Reactivity

ıbility and Reactivity	The product is stable.
Conditions of Instability	None known.
Incompatibility with Various Substances	Reactive with acids, alkalis.
Hazardous Decomposition Products	Toxic decomposition products include: Ammoniacal vapors. Oxides of nitrogen. Hydrogen fluoride
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

Acute toxicity	Estimated to be greater than 2000 mg/kg (rat).
Effects of Chronic Exposure	None known.
Other Toxic Effects	Not available.

Section 12. Ecological Information

Not available.

Section 13. Disposal Considerations

Waste Information	No special precautions. Dispose of according to all federal, state and local regulations.

Section 14. Transport Information

DOT Classification

DOT Proper Shipping Name	Please refer to the Bill of Lading/receiving documents for up to date shipping information.

TDG Classification

TDG Proper Shipping Name	Please refer to the Bill of Lading/receiving documents for up to date shipping information.

Section 15. Regulatory Information

Reporting in this section is based on ingredients disclosed in Section 2

US Regulations

Federal Clean Water Act (CWA) 311: Ammonium Bifluoride
CERCLA: Hazardous substances.: Ammonium Bifluoride

State New Jersey spill list: Ammonium Bifluoride
New Jersey: Ammonium Bifluoride
Massachusetts spill list: Ammonium Bifluoride
Massachusetts RTK: Ammonium Bifluoride
Pennsylvania RTK: Ammonium Bifluoride

This product is not subject to the reporting requirements under California's Proposition 65.

Registered Product Information Not applicable.

Canadian Regulations

WHMIS Classification CLASS D-2B: Material causing other toxic effects (TOXIC).

WHMIS Icon

Continued on Next Page

Registered Product Information	Not applicable.
Chemical Inventory Status	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Section 16. Other Information

Other Special Considerations	Not available.
Version	1.03

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MATERIAL SAFETY DATA SHEET

VIONEX

Antimicrobial Liquid Soap

IDENTIFICATION

Manufacturer:	Metrex Research Corporation
Address:	28210 Wick Road
City, State, Zip:	Romulus, MI 48174
Telephone:	1-800-841-1428
Emergency:	**Chemtrec 1- 800-424-9300**
Date Prepared:	October 2, 2003

2 - COMPOSITION INFORMATION

Hazardous Ingredients

This product contains no hazardous components as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Other Ingredients

Water, glycerin, propylene glycol, sodium olefin sulfonate, lauramide DEA, sodium chloride, citric acid, FD&C colorants and fragrance

3 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/A
Specific Gravity (H_20 = 1.0): 1.02
Vapor Pressure (mm Hg): N/A
Vapor Density (AIR = 1): N/A
Evaporation Rate: N/A
Solubility in Water: 100%
Appearance and Odor: Green pearl viscous liquid, floral fragrance

4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/A
Flammable Limits: **LEL:** N/A **UEL:** N/A
Extinguishing Media: Water, carbon dioxide, dry chemical
Special Fire Fighting Procedures: N/A
Unusual Fire or Explosion Hazards: N/A

5 - REACTIVITY DATA

Stability: Stable solution.
Conditions to Avoid: N/A
Incompatibility (Material to Avoid): N/A
Hazardous Polymerization: Will not occur.

6 - HEALTH HAZARD DATA

Routes of Entry:
Skin: N/A
Eyes: Can be irritating to eyes.
Inhalation: N/A
Carcinogenicity - **NTP:** No
IARC Monographs: No **OSHA Regulated Carcinogen:** No

7 - EMERGENCY FIRST AID PROCEDURES

Skin: N/A
Eyes: Flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.
Inhalation: Not expected to occur.
Ingestion: Get medical attention. Do not induce vomiting.

8 - PRECAUTIONS FOR SAFE HANDLING & USE

Steps to be taken in case material is released or spilled: Flush area with water and dispose to sanitary sewer.
Waste Disposal Method: An acceptable method of disposal is to dilute with large amounts of water followed by discharge into a suitable treatment system in accordance with all regulatory agencies. Because acceptable methods of disposal may vary by location and because regulatory requirements may change, the appropriate regulatory agencies should be contacted prior to disposal.
Precautions to be taken in handling and storing: Store containers tightly closed and in an upright position at room temperature.

9 - CONTROL MEASURES

Respiratory Protection (Specify Type): N/A
VENTILATION:
Local Exhaust: N/A
Mechanical (General): Should be adequate
Protective Gloves: N/A
Eye Protection: Use goggles if eye exposure is possible.
Other Protective Clothing or Equipment: N/A

10 - TRANSPORTATION INFORMATION

Not regulated.

11 - SPECIAL INFORMATION

HMIS (Hazardous Material Identification System) Rating:
H0 F0 R0
[HMIS Hazard Index: 4 – Severe Hazard; 3 – Serious Hazard; 2 – Moderate Hazard; 1 – Slight Hazard; 0 – Minimum Hazard]

Note: This MSDS was prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) and is to be used only for this product. The information contained in this MSDS is, to the best of our knowledge, believed to be accurate.

WINDEX GLASS CLEANER (RTU)

National Fire Protection Association (NFPA)	Fire Hazard / Health / Reactivity / Specific Hazard	Hazardous Material Information System (HMIS)	
		Health	0
		Fire Hazard	1
		Reactivity	0

Protective Clothing None required.

Emergency Overview Clear Blue. Liquid. See Section 9.

Section 1. Chemical Product and Company Identification

Product Name	WINDEX GLASS CLEANER (RTU)	**Code**	90122 & 90135 & 90139 & 90940 & 94099
Product Use	Industrial/Institutional: Cleaning product.	**PMS#**	455934
MSDS#	126011002	**Validation Date**	4/8/2003
		Print Date	4/8/2003
		Supersedes	10/21/2002.
		In Case of Emergency	(800) 851-7145

U.S. Headquarters
Drackett Professional
A Division of
S.C. Johnson Commercial Markets, Inc.
8310 16th Street
Sturtevant, Wisconsin 53177-0902
Phone: (888) 352-2249

Section 2. Composition and Information on Ingredients

Ingredients	CAS #	% by Weight	Exposure Limits	LC50/LD50
2-Butoxyethanol	111-76-2	0.5-1.5	**OSHA (United States).** TWA: 120 mg/m³ **ACGIH (United States).** TWA: 97 mg/m³	ORAL (LD50): Acute: 506 mg/kg [Rat]. DERMAL (LD50): Acute: 406 mg/kg [Rabbit]. VAPOR (LC50): Acute: 450 ppm 4 hour(s) [Rat].
Ethylene glycol hexyl ether	112-25-4	0.5-1.5	Not available.	Not available.
Isopropyl Alcohol	67-63-0	1-5	**OSHA (United States).** TWA: 980 mg/m³ STEL: 1225 mg/m³ **ACGIH (United States).** TWA: 983 mg/m³ STEL: 1230 mg/m³	ORAL (LD50): Acute: 5045 mg/kg [Rat]. DERMAL (LD50): Acute: 12800 mg/kg [Rabbit]. VAPOR (LC50): Acute: 16000 ppm 8 hour(s) [Rat].
Water	7732-18-5	60-100	Not available.	Not available.

Section 3. Hazards Identification

Routes of Entry Inhalation. Skin contact. Eye contact.

Potential Acute Health Effects

Eyes None known.

Skin None known.

Inhalation None known.

Ingestion None known.

Medical Conditions Aggravated by Overexposure: None known.

See Toxicological Information (section 11)

Continued on Next Page

011166

Section 4. First Aid Measures

Eye Contact	Rinse with plenty of running water.
Skin Contact	Rinse with plenty of running water.
Inhalation	No specific first aid measures are required.
Ingestion	No specific first aid measures are required.

Section 5. Fire Fighting Measures

Flammability of the Product	Although this product has a flash point below 200 Deg. F, it is an aqueous solution containing an alcohol and does not sustain combustion.
Flash Points	Closed cup: 51.1°C (124°F).
Products of Combustion	None known.
Fire Fighting Media and Instructions	Extinguish with water spray or carbon dioxide, dry chemical powder or appropriate foam. Normal fire fighting procedure may be used.
Special Remarks on Fire and Explosion Hazards	None known.

Section 6. Accidental Release Measures

Personal Precautions	Put on appropriate personal protective equipment (see Section 8.).
Environmental Precautions and Clean-up Methods	In the event of major spillage: Use appropriate containment to avoid environmental contamination. Sweep or scrape up material. Place in suitable clean, dry containers for disposal by approved methods. Use a water rinse for final clean-up.

Section 7. Handling and Storage

Handling	Avoid contact with eyes. Use appropriate hygiene measures when handling product. FOR INDUSTRIAL USE ONLY
Storage	Store in a dry, cool and well-ventilated area. Protect from freezing. KEEP OUT OF REACH OF CHILDREN.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	No special ventilation requirements. General room ventilation is adequate.
Personal Protection	
Eyes	No special requirements under normal use conditions.
Hands	No special requirements under normal use conditions.
Respiratory	No special requirements under normal use conditions.
Feet	No special requirements under normal use conditions.
Body	No special protective clothing is required.

Section 9. Physical and Chemical Properties

Physical State and Appearance	Liquid.
Odor	Mild. Ammoniacal.
Color	Clear Blue.
pH	10.6 to 11.5 [Basic.]
Specific Gravity	1
Solubility in water	Complete.

Continued on Next Page

011167

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Co ons of Instability	None known.
Incompatibility with Various Substances	Not available.
Hazardous Decomposition Products	When exposed to fire: Produces normal products of combustion.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

Acute toxicity	ORAL (LD50) Estimated to be greater than 5000 mg/kg (rat).
Effects of Chronic Exposure	None known.
Other Toxic Effects	Not available.

Section 12. Ecological Information

Not available.

Section 13. Disposal Considerations

Waste Information	No special precautions. Dispose of according to all federal, state and local regulations.

Section 14. Transport Information

DOT Classification

DOT Proper Shipping Name	- Please refer to the Bill of Lading/receiving documents for up to date shipping information.

TDG Classification

TDG Proper Shipping Name	- Please refer to the Bill of Lading/receiving documents for up to date shipping information.

Section 15. Regulatory Information

Reporting in this section is based on ingredients disclosed in Section 2

US Regulations

Federal	SARA 313 toxic chemical notification and release reporting: Isopropyl Alcohol CERCLA: Hazardous substances.: Isopropyl Alcohol
State	New Jersey spill list: Isopropyl Alcohol New Jersey: Isopropyl Alcohol Massachusetts spill list: Isopropyl Alcohol Massachusetts RTK: Isopropyl Alcohol Pennsylvania RTK: Isopropyl Alcohol This product is not subject to the reporting requirements under California's Proposition 65.
Registered Product Information	Not applicable.

Canadian Regulations

WHMIS Classification	Not controlled under WHMIS (Canada).
WHMIS Icon	
Registered Product Information	Not applicable.

C ical Inventory Status	All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory

Continued on Next Page

Section 16. Other Information

Other Special Considerations	MSDS Serial Range: 2-3
Version	2.1

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Product: 750030 WOODSIDE ALL-SURFACE POLISH CONCENTRATE Effective : 01/21/99
Emergency Phone # (800) 255-3924 Supersedes: 06/23/93
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION I-PRODUCT IDENTIFICATION ***

******* MANUFACTURER *******	****** DISTRIBUTED BY ******
GENLABS	WAXIE SANITARY SUPPLY
PO BOX 1697	Corporate Headquarters
	9353 Waxie Way
CHINO, CA 91708-/10	San Diego, CA 92123
(909) 591-8451	(858) 292-8111
	Tom Seaton
	Director of Product Management

HAZARD RATING	HMIS	NFPA	
Health :	not available	0	Insignificant
Flammability :	not available	0	Insignificant
Reactivity :	not available	0	Insignificant

*** SECTION II-HAZARDOUS INGREDIENTS/IDENTITY INFORMATION ***

CAS #	INGREDIENTS	WEIGHT %
NONE	NONE	

EXPOSURE LIMIT : Not established

*** SECTION III-PHYSICAL DATA ***

APPEARANCE/ODOR.....: Opaque Orange, Orange Odor
SPECIFIC GRAVITY.....: 1.001
VAPOR PRESSURE - (mm Hg).....: Not Tested
ERCENT VOLATILE BY VOLUME (%)....:
SOLUBILITY IN WATER.....: Miscible
VAPOR DENSITY (Air=1).....: Not Tested
FREEZING POINT (*F).....:
BOILING POINT (*F).....: >212 deg F
ph.....: 6.5 - 8.0d
EVAPORATION RATE (Butyl Acetate=1): Not Tested
VOC.....: <10 g/L
THEORETICAL VOC (lb/gal).....:

*** SECTION IV-FIRE AND EXPLOSION INFORMATION ***

FLASH POINT (*F) (Method Used):
None
FLAMMABLE LIMITS:
Not Tested. LEL / UEL: Not Tested.
EXTINGUISHING MEDIA:
None
SPECIAL FIREFIGHTING PROCEDURES:
None
UNUSUAL FIRE AND EXPLOSION HAZARDS:
None

*** SECTION V-HEALTH HAZARD DATA ***

PRIMARY ROUTE OF ENTRY:
Inhalation, Skin, Ingestion
SIGNS AND SYMPTOMS:
Eyes: Burning sensation.

Product: 750030 WOODSIDE ALL-SURFACE POLISH CONCENTRATE Effective : 01/21/99
Emergency Phone # (800) 255-3924 Supersedes: 06/23/93
SAPS

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION V-HEALTH HAZARD DATA ***

Skin: Not expected to be a problem.
Ingestion: Nausea.
Inhalation: Not expected to be a problem.

FIRST AID PROCEDURES:

Eyes: Flush with water for 15 minutes. If irritation persists, call a physician.
Skin: Wash off with soap and water.
Ingestion: Drink large amounts of water, call physician.
Inhalation: See Above.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE:

Same as signs and symptoms of over exposure.

*** SECTION VI-REACTIVITY DATA ***

STABILITY:

Stable.

STABILITY-CONDITIONS TO AVOID:

None

INCOMPATIBILITY:

Strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS:

CO, CO2

HAZARDOUS POLYMERIZATION:

None

HAZARDOUS POLYMERIZATION-CONDITIONS TO AVOID:

None

*** SECTION VII-SPILL OR LEAK PROCEDURES ***

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Soak up with inert, absorbent material. Scoop up and place in a proper waste disposal container.

WASTE DISPOSAL INFORMATION:

Dispose of in accordance with state and local regulations.

*** SECTION VIII-SPECIAL PROTECTION INFORMATION ***

RESPIRATORY PROTECTION:

Open all doors and windows. If there is an exposure, and it is above TLV or PEL, a NIOSH approved respirator equipped for the exposure or suitable respiratory protection per 29 CFR 1910.134, is required.

VENTILATION:

Local exhaust: If available. Special: None.
Mechanical: If available. Other: None.

PROTECTIVE GLOVES:

None.

EYE PROTECTION:

None.

OTHER PROTECTIVE MEASURES:

Use common sense and care around chemicals. Never mix chemicals. Consult your Supervisor for other practices. All practices depend on your specific business. Directions for use are normally found on label which will dictate engineering and control measures.

*** MATERIAL SAFETY DATA SHEET ***

*** SECTION VIII-SPECIAL PROTECTION INFORMATION ***

*** SECTION IX-SPECIAL PRECAUTIONS ***

PRECAUTIONARY LABELING:
Keep out of reach of children. Follow directions on the container for proper use of this product.

OTHER HANDLING AND STORAGE CONDITIONS:
Store in a cool dry place, out of direct sunlight. Do not freeze, less than 32 deg F or equal, or heat above 110 deg F.

*** SECTION X-ADDITIONAL INFORMATION ***

ADDITIONAL INFORMATION:
Note: All chemicals incorporated into this product are found on the TSCA Inventory List.

*** SECTION XI-TRANSPORTATION INFORMATION ***

DOT CLASS:

DOT #:
None

SHIPPING NAME:

DOT NOTES:

*** SECTION XII-REGULATORY INFORMATION ***

Note: Genlabs believes the data set forth are accurate, Genlabs makes no warranty with respects thereto and disclaims all liability for reliance thereon. Such data are offered solely for consideration, investigation and verification. Also, the data set forth is for the concentrated finished product.
The disclosures and information set forth on this sheet were provided by manufacturers and distributors who provide product(s) for WAXIE. WAXIE does not warrant the accuracy, completeness or legality of such disclosures or information or that WAXIE has correctly and completely reproduced and copied the same.

ENFORCER Products, Inc.
P O. Box 1060
tersville, GA 30120
. 888-805-HELP

Material Safety Data Sheet
AND SAFE HANDLING DISPOSAL INFORMATON

Section 1. Chemical Product and Company Identification

Product name	**Calcium, Lime & Rust Stain Remover**
Product Code	**HD-RUST-128/32** **CN-RUST-32/128**
Formula No.	**FRUST**
Date of issue	**03/26/02** **Version** 1.0
Emergency telephone number	For MSDS Information: Compliance Services, 404 352 1680 For a Medical Emergency: Toll Free INFOTRAC, 877 541 2016 (Calls Recorded) For a Transportation Emergency: Toll Free CHEMTREC, 800 424 9300 (Calls Recorded)
Prepared by	Acuity Specialty Products Group 1420 Seaboard Industrial Blvd. Atlanta, GA 30318

Section 2. Composition, Information on Ingredients

Name of Hazardous Ingredients	CAS #	% by Weight	Exposure Limits
1) Hydrochloric acid	7647-01-0	0-5	**ACGIH (United States).** TWA: 5 ppm **OSHA (United States).** CEIL: 5 ppm
2) Hydroxyacetic acid	79-14-1	0-5	Not available.
3) Sulfamic acid	5329-14-6	0-5	Not available.

ction 3. Hazards Identification

Acute Effects **Routes of Entry** Eye contact. Inhalation. Ingestion.

Eyes Very hazardous in case of eye contact (corrosive).

Skin Hazardous in case of skin contact (corrosive). Skin contact may produce burns.

Inhalation Slightly hazardous in case of inhalation (lung sensitizer). Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Over-exposure by inhalation may cause respiratory irritation.

Ingestion Very hazardous in case of ingestion. May be fatal if swallowed. May cause burns to mouth, throat and stomach.

Chronic Effects Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Carcinogenic Effects Not listed as carcinogen by OSHA, NTP or IARC.

See Toxicological Information (section 11)

HMIS

Health	3
Fire Hazard	0
Reactivity	0
Personal Protection	B

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If irritation persists, get medical attention.

Ingestion If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

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Section 5. Fire Fighting Measures

Flash Point Not applicable.

Flammability Not applicable.

Fire-Fighting Procedures Not applicable.

Flammable Limits Not applicable.

Fire Hazard Not applicable.

Section 6. Accidental Release Measures

Spill Clean up Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: **Neutralize the residue with a dilute solution of sodium carbonate.**

Section 7. Handling and Storage

Handling Do not ingest. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area. Store between 40°F and 120°F.

Section 8. Exposure Controls, Personal Protection

Personal Protection

Eyes Splash goggles.

Body Protective gloves should be worn under normal conditions of use.

Respiratory A respirator is not needed under normal and intended conditions of product use.

Protective Clothing (Pictograms)

Section 9. Physical and Chemical Properties

Physical State	Liquid.	**Color**	Yellow. (Light.)
pH	<1 [Acidic.]	**Odor**	Sour. (Slight.)
Boiling Point	100°C (212°F)	**Vapor Pressure**	Not available.
Specific Gravity	1.068 (Water = 1)	**Vapor Density**	Not available.
VOC (Consumer)	0 (g/l).	**Evaporation Rate**	Not available.
Solubility	Easily soluble in cold water, hot water.		

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Incompatibility Incompatible with ammonia.

Hazardous Decomposition Products Not determined.

Hazardous Polymerization Will not occur.

Section 11. Toxicological Information

Toxicity to Animals

Hydrogen chloride:
ORAL (LD50): Acute: 900 mg/kg [Rat.].

Hydroxyacetic acid:
ORAL (LD50): Acute: 1950 mg/kg [Rat.].

Sulfamic acid:
ORAL (LD50): Acute: 3160 mg/kg [Rat.].

Chronic Effects on Humans Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation.

Section 12. Ecological Information

Ecotoxicity Not available.

Biodegradable/OECD Not available.

Section 13. Disposal Considerations

Waste Information Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Waste Stream Code: D002
Classification: Corrosive
Origin: RCRA

Consult your local or regional authorities.

Section 14. Transport Information

Proper shipping name Corrosive liquid, acidic, inorganic, n.o.s.(Hydrochloric acid, Sulfamic acid)

DOT Classification Class 8: Corrosive liquid.

UN number UN3264

TDG Classification TDG Class 8: Corrosive liquid; 9.2: Environmentally hazardous material.

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Section 15. Regulatory Information

U.S. Federal Regulations	SARA 313 toxic chemical notification and release reporting: Hydrochloric acid Clean Water Act (CWA) 311: Hydrogen chloride Clean air act (CAA) 112 regulated toxic substances: No products were found.
.e Regulations	California prop. 65: No products were found.
WHMIS (Canada)	Class D-1B: Material causing immediate and serious toxic effects (TOXIC). Class E: Corrosive liquid.

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

ZEP MANUFACTURING COMPANY
Acuity Specialty Products Group, Inc.
P.O. BOX 2015
ATLANTA, GA 30301
1- 877- I - BUY- ZEP

Material Safety Data Sheet

and Safe Handling and Disposal Information

Issue Date	10/02/00
Supersedes	06/16/92
Product Name	**ZEPYNAMIC A COUNTRY GARDEN**
Product No.	**0110**

Aerosol Disinfectant - Deodorant

Printing date: 09/10/03

SECTION I - EMERGENCY CONTACTS

For MSDS Information:
Acuity Specialy Products Group, Inc.
Compliance Services 1-877-I-BUY-ZEP

For Medical Emergency:
INFOTRAC
(877) 541-2016 Toll Free - All Calls Recorded

For a Transportation Emergency:
CHEMTREC
(800) 424-9300 - All Calls Recorded
In the District of Columbia (202) 483-7616

SECTION II - HAZARDOUS INGREDIENTS

** ETHANOL ** ethyl alcohol; grain alcohol; CAS# 64-17-5; RTECS# KQ6300000; OSHA PEL-1000 ppm; TLV - 1000; EFFECTS - IRR FBL; % IN PROD - 50-60
** BLEND OF [ISOBUTANE; CAS# 75-28-5; RTECS# TZ4300000] & [PROPANE; CAS# 74-98-6; RTECS# TX2775000] & [n-BUTANE; CAS# 106-97-8; RTECS# EJ4200000] ** OSHA PEL-1000 ppm; TLV - 800; EFFECTS - FBL; % IN PROD - 10-20
@ -Reportable under the SARA 313 Toxic Release Inventory

SECTION III - HEALTH HAZARD DATA

SPECIAL NOTE: MSDS data pertains to the product as dispensed from the container. Adverse health effects would not be expected under recommended conditions of use (diluted) so long as prescribed safety precautions are practiced.
ACUTE EFFECTS OF OVEREXPOSURE:
Eye irritant. Eye contact may produce stinging, burning, inflammation, and in extreme cases injury to eye tissue may occur. Prolonged exposure to mists or vapors may be irritating to skin and upper respiratory tract. Overexposure can result in mild narcotic effects, including flushing, headache, dizziness and nausea. Inhalation of aerosol mist may produce chemical pneumonia.
CHRONIC EFFECTS OF OVEREXPOSURE:
Repeated or prolonged, skin contact may produce some dryness of skin. Chronic effects from alcohol vapors are rare and would result from severe, prolonged, and repeated contact, which is usually precluded by irritation. In most extreme cases, weakness, drowsiness or loss of consciousness could result. None of the ingredients are listed as carcinogens by IARC, NTP, or OSHA.
EST'D PEL/TLV: Not established
PRIMARY ROUTES OF ENTRY: Inh, Skin.
HMIS CODES: HEALTH 1; FLAM 3; REACT 0; PERS. PROTECT B; CHRONIC HAZ NO
FIRST AID PROCEDURES:
SKIN: Immediately flush contaminated skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops.
EYES: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting upper and lower lids. Get medical attention at once.
INHALE: Move exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Get medical attention immediately.
INGEST: If this product is swallowed, do not induce vomiting. If individual is alert, give plenty of water to drink. Get medical attention at once.

SECTION IV - SPECIAL PRECAUTION INFORMATION

PROTECTIVE CLOTHING: The use of neoprene, nitrile or natural rubber gloves is strongly recommended, especially for prolonged contact.
EYE PROTECTION: Use of tight-fitting safety glasses or goggles is strongly recommended, especially when wearing contact lenses.
RESPIRATORY PROTECTION: Keep face away from spray mist and do not breathe vapors.
VENTILATION: Provide local exhaust/ventilation as needed to keep concentration of vapors below exposure limits (PEL/TLV).

SECTION V - PHYSICAL DATA

BOILING POINT (F) - 180
VAPOR PRESSURE(mmHg) - 30
VAPOR DENSITY(AIR-1) - >1
SOLUBILITY IN WATER - COMPLETE
pH(USE DILUTION OF) - N/A N/A
VOC CONTENT (CONCENTRATE) - 73.4%
SPECIFIC GRAVITY - 0.87
EVAPORATION RATE (BU. ACETATE=1) - >1
pH(CONCENTRATE) - N/A
APPERANCE AND ODOR - A CLEAR, COLORLESS LIQUID WITH A FLORAL SCENT

SECTION VI - FIRE AND EXPLOSION DATA

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FLASH POINT(F) (METHOD USED): Flammable CSMA
FLAMMABLE LIMITS:LEL: N/A UEL: N/A
EXTINGUISHING MEDIA: Water
SPECIAL FIRE FIGHTING: Direct water onto intact containers to prevent bursting.
UNUSUAL FIRE HAZARDS: Container may burst if heated above 120F.

SECTION VII - REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY(AVOID): Strong oxidizing agents.
POLYMERIZATION: Will not occur.
HAZARDOUS DECOMPOSITION: Carbon dioxide, carbon monoxide, and other unidentified organic compounds.

SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIALS IS RELEASED OR SPILLED:
Observe safety precautions in sections 4 & 9 during spill clean-up. Large spills are unlikely due to packaging. Spill may be absorbed on an inert absorbent material, and placed in a suitable container for disposal. Wash area thoroughly with a detergent solution and rinse well with water.
WASTE DISPOSAL METHOD:
Product is consumed in use. Do not crush, puncture or incinerate spent containers. Large numbers of aerosol containers may require handling as a hazardous waste, but in most states total hazardous waste quantities less than 220 lbs per month may allow disposal in a chemical or industrial waste landfill. Consult local, state and federal agencies for the proper disposal method in your area.
RCRA HAZ WASTE NOS: D001

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING
Flammable! Store and use away from heat, sparks, open flame, and any source of ignition. Do not breathe spray mists or vapors. Keep product out of eyes. Avoid prolonged contact with skin. Do not store at temperatures above 120F (39C) or in direct sunlight. Do not puncture or incinerate container. Keep out of the reach of children.

SECTION X - REGULATORY INFORMATION

DOT PROPER SHIPPING NAME: CONSUMER COMMODITY,
NOTE: DOT information applies to larger package sizes of affected products. For some products, DOT may require alternate names and labeling in accordance with packaging group requirements.
DOT HAZARD CLASS: ORM-D DOT PACKING GROUP: N/A
DOT I.D. NUMBER: N/A DOT LABEL/PLACARD: ORM-D
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): NONE
EPA CAA: N/A
FOR OUR CALIFORNIA CUSTOMERS :
PROPOSITION 65 CHEMICAL(S) IN THIS PRODUCT IS/ARE:
WARNING: This product contains the following chemical(s) known to the State of California to cause cancer: O-PHENYL PHENOL

MATERIAL SAFETY DATA SHEET

NOTICE

Thank you for your interest in, and use of, this product. Acuity Specialty Products Group is pleased to be of service to you by supplying this Material Safety Data Sheet for your files. Acuity Specialty Products Group is concerned for r health and safety. This product and all others supplied by Acuity Specialty ucts Group companies can be used safely with proper protective equipment and proper handling practices consistent with label instructions and the MSDS. Before using any this product, be sure to read the complete label and the Material Safety Data Sheet.

As a further word of caution, Acuity Specialty Products Group wishes to advise that serious accidents have resulted from the misuse of "emptied" containers. "Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, or other sources of ignition; they may explode or develop harmful vapors and possibly cause injury or death. Clean empty containers by triple rinsing with water or an appropriate solvent. Empty containers must be sent to a drum reconditioner before reuse.

TERMS AND ABBREVIATIONS
Listed Alphabetically by Section

SECTION II: HAZARDOUS INGREDIENTS

CAR: Carcinogen - A chemical listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC) or OSHA as a definite or possible human cancer causing agent.
CAS#: Chemical Abstract Services Registry Number - A universally accepted numbering system for chemical substances.
CBL: Combustible - At temperatures between 100°F and 200°F chemical gives off enough vapor to ignite if a source of ignition is present as tested with a closed cup tester.
CNS: Central Nervous System depressant that reduces the activity of the brain and spinal cord.
COR: Corrosive - Causes irreversible injury to living tissue (e.g. burns).
DESIGNATIONS: Chemical and common names of hazardous ingredients.
EIR: Eye Irritant Only - Causes reversible reddening and/or inflammation of eye tissues.
EXPOSURE LIMITS: The time weighted average (TWA) airborne concentration at which most workers can be exposed without any expected adverse effects. Primary sources include ACGIH TLVs, and OSHA PELs.
ACGIH: American Conference of Governmental Industrial Hygienists
CEILING: "The concentration that should not be exceeded in the workplace during any part of the working exposure." Source, ACGIH
OSHA: Occupational Safety and Health Administration.
PEL: Permissible Exposure Limit - A set of time weighted average exposure values, established by OSHA, for a normal 8-hour day and a 40-hour workweek.
PPM: Parts per million - unit of measure for exposure limits.
(S) SKIN: Skin contact with substance can contribute to overall exposure.
STEL: Short Term Exposure Limit - Maximum concentration for a continuous 15-minute exposure period.
TLV: Threshold Limit Value - A set of time weighted average exposure limits, established by the ACGIH, for a normal 8-hour day and a 40-hour workweek.
FBL: Flammable - At temperatures under 100°F, chemical gives off enough vapors to ignite if a source of ignition is present as tested with a closed cup tester.
HAZARDOUS INGREDIENTS: Chemical substances that are determined to be potential health or physical hazards based on the criteria established in the OSHA Hazard Communication Standard - 29 CFR 1910.1200
HTX: Highly toxic - the probable lethal dose for a 70 kg (150 lb.) man, which may be approximated as less than 6 teaspoons (2 tablespoons)
IRR: Irritant - Causes reversible effects in living tissues (e.g. inflammation) - primarily skin and eyes.
N/A: Not Applicable - Category is not appropriate for this product.
N/D: Not Determined - Insufficient information to make a determination for this item.
RTECS#: Registry of Toxic Effects of Chemical Substances - an unreviewed listing of published toxicology data on chemical substances.
SARA: Superfund Amendment and Reauthorization Act - Section 313 designates certain chemicals for possible reporting for the Toxic Chemical Release Inventory.
SEN: Sensitizer - Causes allergic reaction after repeated exposure.
TOX: Toxic - The probable lethal dose for a 70 kg (150 kg) man is one ounce (2 tablespoons) or more.

SECTION III: HEALTH HAZARD DATA

UTE EFFECT: An adverse effect on the human body from a single exposure with symptoms developing almost immediately after exposure or within a relatively short time.
CHRONIC EFFECT: Adverse effects that are most likely to occur from repeated exposure over a long period of time.
EST'D PEL/TLV: This estimated, time-weighted-average, exposure limit, developed by using a formula provided by the ACGIH, pertains to airborne concentrations from the product as a whole. This value should serve as guide for providing safe workplace conditions to nearly all workers.
HMIS CODES: Hazardous Material Identification System - a rating system developed, by the National Paint and Coating Association for estimating the hazard potential of a chemical under normal workplace conditions. These risk estimates are indicated by a numerical rating given in each of three hazard areas (Health/ Flammability/Reactivity) ranging from a low of zero to a high of 4. The presence of a chronic hazard is indicated by a "YES". Consult HMIS training guides for Personal Protection letter codes, which indicate necessary protective equipment.
PRIMARY ROUTE OF ENTRY: The way one or more hazardous ingredients may enter the body and cause a generalized systemic or specific-organ toxic effect.
ING: Ingestion - A primary route of exposure through swallowing of material.
INH: Inhalation - A primary route of exposure through breathing of vapors.
SKIN: A primary route of exposure through contact with the skin.

SECTION IV: SPECIAL PROTECTION INFORMATION

Where respiratory protection is recommended, use only MSHA and NIOSH approved respirators and dust masks.
MSHA: Mine Safety and Health Administration
NIOSH: National Institute for Occupational Safety and Health.

SECTION V: PHYSICAL DATA

EVAPORATION RATE: Refers to the rate of change from the liquid state to the vapor state at ambient temperature and pressure in comparison to a given substance (e.g. water).
pH: A value representing the acidity or alkalinity of an aqueous solution (Highly Acidic pH = 1; Neutral pH = 7; Highly Alkaline pH = 14)
VOC CONTENT: The percentage or amount in pounds per gallon of the product that is regulated as a Volatile Organic Compound under the Clean Air Act of 1990 and various state jurisdictions.
SOLUBILITY IN WATER: A description of the ability of the product to dissolve in water.

SECTION VII: REACTIVITY DATA

HAZARDOUS DECOMPOSITION: Breakdown products expected to be produced upon product decomposition by extreme heat or fire.
INCOMPATIBILITY: Keep product away from listed substances or conditions to prevent hazardous reactions.
POLYMERIZATION: Indicates the tendency of the product's molecules to combine with themselves in a chemical reaction releasing excess pressure and heat.
STABILITY: Indicates the susceptibility of the product to decompose spontaneously and dangerously.

SECTION VIII: SPILL AND DISPOSAL PROCEDURES

RCRA WASTE NOs: RCRA (Resource Conservation and Recovery Act) waste codes (40 CFR 261) applicable to the disposal of spilled or unusable product from the original container.

SECTION X: TRANSPORTATION DATA

CWA: Clean Water Act - Federal law that regulates chemical releases to bodies of water.
RQ: Reportable Quantity - The amount of the specific ingredient that, when spilled to the ground and, can enter a storm sewer or natural watershed, must be reported to the National Response Center, and other regulatory agencies.
TSCA: Toxic Substances Control Act - A federal law requiring all commercial chemical substances to appear on an inventory maintained by the EPA.

DISCLAIMER

All statements, technical information, and recommendations contained herein are based on available scientific tests or data that we believe to be reliable. The accuracy and completeness of such data are not warranted or guaranteed. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. Acuity Specialty Products Group assumes no liability or responsibility for loss or damage resulting from the improper use or handling of our products, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the product label and Material Safety Data Sheet

(rev 06/02)

Material Safety Data Sheet

(MSDS)

Date of Issue: 01/26/96

Date of Revision: 08/01/02

SECTION 1 - MANUFACTURER INFORMATION

Manufacturer Name:	Decon Laboratories, Inc.		
Trade Name:	**Bacdown® Antimicrobial Handsoap**	**Emergency Telephone** U.S.: (800) 424-9300 Canada: (703) 527-3887	
Chemical Name or Synonym:	N/A	**Info Telephone:**	610-520-0610
Mfg. Address:	890 County Line Rd		
City:	Bryn Mawr	**State, Zip:**	PA 19010

SECTION II - HAZARDOUS INGREDIENTS

CAS Number	Chemical Name	Percent	PEL	C	S	TLV	C	S	Units	313
	Non Hazardous Ingredients	100							N/A	N

CAS Numbers beginning with letters are codes for items with no valid CAS assignments; "PEL" is OSHA Permissible Exposure Limit; "C" indicates the standard is a Ceiling value; "S" indicates the chemical has a "Skin Contact" notation; "TLV" is Threshold Limit Value; "313" indicates ingredient is reportable under SARA Title III, Section 313. NA-Not Applicable; NE-Not Established; UN-Unknown

Additional Information: Unidentified ingredients are not considered hazardous under the Federal Hazard Communication Standard (29 CFR 1910.1200)

SECTION III - PHYSICAL DATA

Boiling Point (°F):	>212	**Specific Gravity:**	1.00
Vapor Pressure (mm of Hg):	<18	**% Volatiles:**	>60
Vapor Density (Air=1):	<1	**pH:**	7.2
Solubility:	Complete	**Evaporation Rate:**	<1 BuAc = 1
Appearance:	Slightly opaque, thick liquid; almond odor.		

SECTION IV - FIRE AND EXPLOSION DATA

Flash Point:	N/A	LEL: NA	UEL: NA
Extinguishing Media:	Use media suitable for surrounding materials.		
Special Procedures:	No special procedures required.		
Unusual Fire / Expl Hazards:	None known.		
Add'l Information:	None.		

Bacdown® Antimicrobial Handsoap

SECTION V - HEALTH HAZARD DATA

ACUTE HEALTH EFFECTS / SYMPTOMS:
Prolonged skin contact may cause mild skin irritation in sensitive individuals. Eye contact may cause irritation.

CHRONIC HEALTH EFFECTS / SYMPTOMS: None known.

Carcinogenicity Data:	NTP: None known	IARC: N	OSHA: N	OTHER: N/A

First Aid

Eyes:	Immediately flush eyes with plenty of water for at least 15 minutes, while holding eyes open. Seek prompt medical attention.
Skin:	Wash affected area with large amounts of water. If irritation persists, seek medical attention.
Inhalation:	Move victim to fresh air. Seek medical attention if irritation persists.
Ingestion:	Contact local Poison Control Center or physician immediately.

SECTION VI - REACTIVITY DATA

Stability:	Normally stable
Incompatibility (Materials to Avoid):	Strong oxidizers. Avoid extreme heat.
Hazardous Decomposition or By-Products:	Carbon Monoxide, carbon dioxide, sulfur dioxide.
Polymerization:	Will not occur.

SECTION VII - SPILL OR LEAK PROCEDURES

Spill Management:	Clean up spill with absorbent material.
Waste Disposal Procedures:	Dispose in accordance with federal, state, and local regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Respiratory:	None required under normal use conditions.
Eyes:	Not normally required.
Clothing / Protective Gloves:	N/A
Ventilation:	N/A

SECTION IX - ADDITIONAL INFORMATION

Safe Handling and Storage:	Store in a closed container. Avoid extreme heat. Do not freeze.

SECTION X – TRANSPORTATION INFORMATION

DOT Hazard Class:	Non-Hazardous (Not Regulated)

The information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse.

WHMIS / OSHA Material Safety Data Sheet

Revision April 7, 2004

Section 1.0 - PRODUCT IDENTITY AND COMPANY INFORMATION

Name of Product: **SoftCide**

WHMIS REGULATED: NO
WHMIS HAZARD CLASS: Not Regulated

MANUFACTURER NAME AND ADDRESS

ERIE SCIENTIFIC CO
20 POST ROAD
PORTSMOUTH INDUSTRIAL PARK
PORTSMOUTH NH 03801 USA

Emergency Telephone Number
800-424-9300 USA
Telephone Number for Information
1-603-431-8410 USA

Section 2.0 - MSDS PREPARATION INFORMATION

PREPARATION INFORMATION

Prepared by: Erie Scientific Company - Safety Department
Phone #: 1-603-431-8410 USA
Preparation Date: 7-Apr-04
Last Revision Date: 1-Jun-03
Name & Address of preparer: See Section 1

Section 3.0 - HAZARDOUS INGREDIENTS / IDENTITY

HAZARDOUS INGREDIENTS	OSHA PEL	ACGIH TLV	CAS#	%
Parachlorometaxylenol (PCMX)	NE	NE	88-04-0	~1%

LC50 (PCMX)	>6.29 mg/L	Inhalation - Rat
LD50 (PCMX)	3,830 mg/L	Oral - Rat

Section 4.0 - PHYSICAL DATA

Boiling Point:	212F	Specific Gravity (H20 =1):	1.0402
Melting Point:	NA	Evaporation Rate (Butyl Acetate =1):	NA
Vapor Density (AIR = 1):	NA	Solubility in Water:	complete
Vapor Pressure (mm Hg):	NA	pH :	NA

Appearance and Odor: Viscous Pearlescent Liquid

Section 5.0 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used):	NA
Flammable Limits:	NA
Extinguishing Media:	Water acceptable
Auto-Ignition Temperature:	None
Special Fire Hazards:	No Special Fire hazards.
Explosion Hazards:	None under normal conditions of use.

Section 6.0 - REACTIVITY DATA

Stability:	Stable
Incompatibility (Materials to avoid):	Strong Oxidizing Agents
Hazardous Decomposition or Byproducts:	None
Conditions to Avoid:	Strong Oxidizers
Hazardous Polymerization:	Will not occur

Section 7.0 - TOXICOLOGICAL PROPERTIES / HEALTH HAZARD DATA

Route(s) of Entry: Ingestion, eyes

Health Hazards (Acute and Chronic): None

Carcinogenicity?	NTP?	IARC Monographs?	OSHA Regulated?
NO	NO	NO	NO

Signs and Symptoms of Exposure: None

Medical Conditions generally aggravated by Exposure: None

Section 8.0 - PREVENTATIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection:	None	**Eye Protection:**	Safety glasses, if splash potential
Protective Gloves	None	**Work / Hygiene Practices:**	None
Mechanical Ventilation	None under normal conditions of use.	**Other Protective Equipment:**	None

SPILLS & WASTE DISPOSAL CONSIDERATIONS

Steps to be Taken in Case Material is Released or Spilled

Flush with water to sewer. This product is biodegradeable.

Waste Disposal Method

Dispose in accordance with applicable local, state, and federal regulations.

HANDLING & STORAGE

Precautions to be Taken in Handling and Storage

None

Other Precautions: None

SPECIAL SHIPPING INFORMATION

US Domestic Ground Transport: Not Regulated

International Air (IATA): Not Regulated

Ocean (IMDG): Not Regulated

Section 9.0 - FIRST AID MEASURES

EYE CONTACT: Immediately flush with plenty of water for 15 minutes. Consult local physician.

INGESTION: If swallowed, drink large quantities of milk, egg whites, or drink large quantities of water. Seek medical attention immediately.

NOTES: NA - not applicable, ND - not determined NE - not establisted

END OF MSDS

Material Safety Data Sheet

The Texwipe Company
650 East Crescent Avenue
Upper Saddle River, NJ 07458
(201) 327-9100

November 1992
TX150, TX152
MSDS #0014

SECTION I: PRODUCT IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT (TRADE) NAME: Glass and Plastic Cleaner
PRODUCT IDENTIFICATION NUMBER(S): TX150, TX152
CHEMICAL NAME AND SYNONYMS: Hydroalcholic Solution
CHEMICAL FORMULA: Proprietary Blend; Predominantly (CH3)2 CHOH

EMERGENCY TELEPHONE NUMBERS: The Texwipe Company: 1-800-284-5577
Chemtrec (Transportation): 1-800-424-9300

SECTION II: HAZARDOUS INGREDIENTS

COMPONENT	CAS #	%	OSHA PEL (ppm)	ACGIH TLV (ppm)
Isopropyl Alcohol	67-63-0	65.0	400	400
Ammonium Hydroxide	7664-41-7	0.25	50	25
Dipropylene Glycol Monomethyl Ether	34590-94-8	0.20	NA	100
Propylene Glycol Monomethyl Ether	107-98-2	0.80	NA	100

All components used in the formulation classified as hazardous under OSHA's Hazard Communication Standard, 29CRF 1910.1200, appear above. Based on the definitions set forth in the standard for hazardous chemicals in a mixture, Sections, IV - X, pertain only to Isopropyl Alcohol at the concentration specified above.

SECTION III: PHYSICAL DATA

BOILING POINT (@ 1 atm F(°C)): 179 (81.6)
VAPOR PRESSURE (mmHg @ 25°C): 36
VAPOR DENSITY (AIR=1): >1
% SOLUBLE IN WATER @ 25°C: 100
SPECIFIC GRAVITY (g/cc @ 25°C): 0.873

% VOLATILE BY VOLUME: >99
EVAPORATION RATE (BUTYL ACETATE=1): >1.0
FORM: Liquid
ODOR: Alcohol
APPEARANCE: Clear

SECTION IV: FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TCC): 71°F
FLAMMABLE LIMITS (% BY VOLUME): LEL: NA UEL: NA
AUTOIGNITION TEMPERATURE F(°C): NA

EXTINGUISHING MEDIA: Fires involving Isopropyl Alcohol may be extinguished using carbon dioxide, dry chemical or alcohol foam. Water may be used to cool fire exposed containers. Fine water mist may be used to smother fire or disperse vapors.

UNUSUAL FIRE OR EXPLOSION HAZARDS: None required than those listed above. No unusual combustion by products produced.

011183

The information provided herein is compiled from internal reports and data from professional publications. It is furnished without warranty of any kind, expressed or implied. It is intended soley to assist in evaluating suitability and proper use of the material and in implementing safety precautions and procedures.

NFPA RATING: Health (1)
Flammability (3)
Reactivity (0)

Classified as an OSHA Class IB Flammable Liquid

NA = Not Available

SECTION V: HEALTH HAZARD INFORMATION

PRIMARY ROUTES OF ENTRY, SIGNS AND SYMPTOMS OF OVER EXPOSURE, TARGET ORGANS, AND ASSOCIATED TOXICITY INFORMATION:

Mild irritation to the nose and throat. Prolonged exposures above the TLV may cause narcosis, nausea and headache. Eye contact will cause local irritation and burning sensations, with possible eye damage. Skin contact will cause a stinging and burning sensation with defatting and possible irritation from prolonged contact. This alcohol is considered poison, with ingestion of 20ml causing serious illness. The single lethal oral dose for an adult is approximately 250ml.

CARCINOGENICITY (OSHA/NTP/IARC/ACIGH): Not listed.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None listed.

FIRST AID

EYE CONTACT: Irrigate with water for 15 minutes, including under eyelids. Get medical help.
SKIN CONTACT: Flush with water.
INHALATION: Remove to fresh air. Restore and/or support breathing as needed. Give oxygen if breathing is difficult.
INGESTION: Get prompt medical help. Give water to drink to dilute. If medical help is not readily available, the amount ingested was large and the victim is conscious and alert, induce vomiting.

SECTION VI: REACTIVITY DATA

STABILITY: Stable
HAZARDOUS POLYMERIZATION: Will not occur
INCOMPATIBILITIES/CONDITIONS TO AVOID: Caustics, amines, alkanolamines, aldehydes, ammonia, strong oxidizing agents and chlorinated compounds.
HAZARDOUS DECOMPOSITION PRODUCTS: Thermal-oxidative degradation may produce carbon monoxide.

SECTION VII: SPILL OR LEAK PROCEDURES

Clean-up personnel need protection against liquid contact and vapor inhalation. Absorb small spills with paper towels, evaporate flammable alcohol in exhaust hood and burn dry paper. Contain large spills; collect liquid if feasible or absorb with vermiculite or sand; then place into covered container (using non-sparking tools) for disposal. Water spray can be used to dilute and flush spill if necessary, but do not flush to water course or to sewer or enclosed area.

DISPOSAL: Burn waste liquid in an approved incinerator or dispose of via licensed waste disposal company. Absorbed liquid can be landfilled. Follow Federal, State and Local regulations.

SECTION VIII: SPECIAL PRECAUTIONS AND CONTROL MEASURES

Provide general and exhaust ventilation (explosion-proof) to meet TLV requirements. Exhaust hoods should maintain a 100cfm face velocity. Preplacement and periodic medical examinations should emphasize skin, sinuses, and the respiratory system.

Store in a clean, cool, ventilated area away from sources of ignition and oxidizing agents. Handle and store in a manner suitable for an OSHA Class 1B Flammable Liquid. Electrical services must need code. Bond and ground containers for transfers. Use non-sparking tools. Use with adequate ventilation. Avoid inhalation of vapors and repeated or prolonged contact of liquid with skin or clothing. Do not take internally. Wash thoroughly after handling. Do not smoke or eat in areas of storage or use.

Wear long sleeves, chemical resistant gloves, chemical goggles when contacting large volumes.

SECTION IX: SHIPPING INFORMATION

DOT CLASSIFICATION

Proper Shipping Name:	Consumer Commodity
Hazard Class:	ORM-D
UN No.:	None
Hazard Labeling Required:	None

IATA CLASSIFICATION

Proper Shipping Name:	Isopropanol Solution
Hazard Class:	3
Subsidiary Risks:	None
UN No.:	1219
Hazard Labeling Required:	Flammable Liquid

SECTION X: ADDITIONAL INFORMATION

HMIS DESIGNATIONS

Health (Blue):	1
Flammability (Red):	3
Reactivity (Yellow):	0
Personal Protection:	Personal protection ratings will vary depending on conditions of use.

SARA TITLE III REPORTING REQUIREMENTS

Toxic Chemical (Section 313): Not listed.

Extremely Hazardous Substance (Sections 302, 304, 311 and 312): Not listed.

TSCA INVENTORY STATUS

Isopropyl Alcohol: Reported/Included

SARA TITLE III PRODUCT HAZARD CATEGORIES

Chronic Health:	No
Acute Health:	No
Fire Hazard:	Yes
Pressure Hazard:	No
Reactivity Hazard:	No

NOTE: The quantity of hazardous material per package (presaturated towelettes) is only 3.2ml (2.5g). All hazard data should be reviewed accordingly.

AUTHORIZED SIGNATURE: Scott Fahy
Scott Fahy, Technical Service Manager

Elaine Jacinto (SCPMG Regional Reference Laboratories)
<elaine.p.jacinto@kp.org>
08/20/2004 05:54 PM

To ITW Texwipe Info <info@texwipe.com>
cc
bcc
Subject Data from the ITW Texwipe Website Contact Form

The following data was sent on Friday August 20, 2004 at 4:54:50 PM

First Name: Elaine
Last Name: Jacinto
Organization: SCPMG Regional Reference Laboratories TO
Title: Safety Coordinator
Address: 11668 Sherman Way
City: North Hollywood
State/Province: CA
Postal Code: 91605
Country: USA

Phone: 818-503-6937
Fax: 818-503-6504
E-Mail: elaine.p.jacinto@kp.org

Notification of new developments at Texwipe:

Required Product Specification: MSDS for TX152

Comments:

Please forward a copy of the MSDS for TX152 via email or fax at your earliest convenience. Feel free to contact me with any questions or comments.

Thank you

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: 01-00001; 01-00002; 01-00010;
01-00020; 01-00030; 01-00040; 01-00050; 01-00060; 01-00070
Product Name: Antigen Control Slides Rev. Date: 03-01-05

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: Antigen Control Slides
Synonyms: Positive control slides, DFA control slides.
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
Antigen Control Slides are microscope slides onto which cultured cells infected with the listed viral or *Chlamydial* agent(s) have been grown then fixed (killed) with acetone; a drying agent is included in the foil envelope to preserve antigen integrity; there is no residual acetone present.

Section III: Physical/Chemical Characteristics
Antigen Control Slides are glass microscope slides, coated with a hydrophobic pigment, except for two clear areas; the clear areas are coated with acetone-fixed cellular material.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Antigen Control Slides: Routes of Entry into the Body: Skin contact. May be harmful by skin absorption. If glass slide is broken, may pose a cut-skin hazard.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
Storage Temperature: 2° to 15°C

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dust, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.
Disposal Practices: The glass slides should be discarded into a puncture proof biohazardous waste container.

The above information is believed to be correct, but Diagnostic Hybrids, Inc., does not purport it to be all-inclusive; this should be used only as a guide.

Refer to the Product Insert for this Product for additional details on the proper storage, handling, use, and disposal of the reagents included in this Product.

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Code: 10-340100,10-340500
Product Name: *Chlamydiae* Overlay Medium

Issue Date: 06-06-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: Chlamydiae Overlay Medium (for the detection of *Chlamydiae* spp in cell culture)
Synonyms: *Chlamydia* Overlay, Cycloheximide Overlay, *Chlamydia* Refeed Medium
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
10% fetal bovine serum in an aqueous, biological salt and nutrient-containing solution; contains Gentamicin, Streptomycin, and Amphotericin B as antimicrobials; contains cycloheximide.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum, gentamicin, streptomycin, amphotericin B, or cycloheximide.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 8°C

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct but we do not purport it to be all-inclusive; it should be used only as a guide.

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Code: 01-010000
Product Name: D^3 DFA Respiratory Viruses

Rev. Date: 05-20-03

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: D^3 DFA for Respiratory Viruses
Synonyms: Resp.Vir. Antigen Detection Kit; Direct Fluorescent Antibody test for Detection of Respiratory Viruses
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
Each liquid component of this kit contains sodium azide at a concentration of 0.1%, added as a preservative.

Respiratory Virus DFA Screening Reagent, the *Identification Reagents [for Adenovirus, Influenza A, Influenza B, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, Respiratory syncytial virus]* and *Non-immune Mouse Antibodies* are aqueous buffered solutions of antibodies (proteins) conjugated with fluorescein isothiocyanate, with Evan's blue counterstain at a concentration of 0.007%.

The *Wash Concentrate* is a solution of salts and detergent.

Buffered Glycerol Mounting Medium is an aqueous solution of glycerol.

Respiratory Viruses Antigen Control Slides are microscope slides onto which cultured cells infected with adenovirus, influenza A, influenza B, parainfluenza 1, parainfluenza 2, parainfluenza 3, or respiratory syncytial virus have been grown then fixed (killed) with acetone; a drying agent is included in the foil envelope to preserve antigen integrity; there is no residual acetone present.

Section III: Physical/Chemical Characteristics
Respiratory Virus Screening MAbs, the *Identification MAbs [Adenovirus, Influenza A, Influenza B, Parainfluenza 1, Parainfluenza 2, Parainfluenza 3, Respiratory syncytial virus]* and *Non-immune Mouse Antibodies* are clear blue solutions; odorless.
Wash Concentrate is a clear solution; odorless.
Buffered Glycerol Mounting Medium is a clear colorless, slightly viscous, solution.
Respiratory Viruses Antigen Control Slides are glass microscope slides, coated with a white pigment except for eight clear areas; the clear areas are coated with acetone-fixed cellular material.

Boiling and Freezing Points for all components are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
None of the ingredients at the concentrations used is known to be hazardous; however, potential hazards are as follows:

Respiratory Viruses Antigen Control Slides: If glass slide is broken, may pose a cut-skin hazard.

Solutions: Routes of Entry into the Body: Inhalation and ingestion; skin contact. Sodium azide at this concentration may be toxic if swallowed or absorbed through skin.

Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to proteins (e.g., antibodies).

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
If a solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 8°C; store in the dark.

Section VIII: Control Measures

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

General Protection and Precautions:

Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.

Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.

Hygiene Practices: Hands should be washed after working with this product.

Disposal Practices: Check with regulatory agencies to determine at what concentration sodium azide may cause a product to be regulated as a hazardous waste. When discarding solutions (which contain sodium azide) into sewerage, always flush with copious amounts of water. This helps to prevent formation of metallic azides, which, in high concentration, may be potentially explosive.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide.

Refer to the Product Insert for this Product for additional details on the proper storage, handling, use, and disposal of the reagents included in this Product. [End]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Section I: Company Information and Chemical Product

Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: Direct Fluorescence Antibody Reagents for the Culture Confirmation of Chlamydia species
Synonyms: Chlamydiae Antigen Detection Kit; Direct FA for Detection of Chlamydiae; Chlamydia Antibody Kit; Antibody Kit for Chlamydia; Chlamydia Kit; Chlamydia DFA.
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information

None of the ingredients at the concentrations used is known to be hazardous.
Chlamydia MAb Conjugate is an aqueous buffered solution of antibody conjugated with fluorescein isothiocyanate, with Evan's blue counterstain at a concentration of 0.007%, and with sodium azide and thimerosal added at concentrations of 0.1% as preservatives.
PBS salts is a vial of the powdered or crystalline forms of sodium phosphate and sodium chloride.
Buffered Glycerol Mounting Medium is an aqueous solution of glycerol.
Chlamydia Antigen Control Slides are microscope slides onto which cultured cells infected with Chlamydia trachomatis have been grown then fixed (killed) with acetone; a drying agent is included in the foil envelope to preserve antigen integrity; there is no residual acetone present.

Section III: Physical/Chemical Characteristics

Chlamydia MAb Conjugate is a clear blue solution; odorless.
PBS salts is a dry mixture of the salts sodium phosphate and sodium chloride; white.
Buffered Glycerol Mounting Medium is a clear colorless, slightly viscous, solution.
Chlamydia Antigen Control Slides are glass microscope slides, coated with a red pigment except for one clear area; the clear area is coated with acetone-fixed cellular material.

Boiling and Freezing Points for all components are near those of pure water.

Section IV: Fire and Explosion Hazard Data

Not Applicable

Section V: Reactivity Data

Not Applicable

Section VI: Health Hazard Data

Chlamydia Antigen Control Slides: Routes of Entry into the Body: Skin contact. May be harmful by skin absorption. If glass slide is broken, may pose a cut-skin hazard.

Chlamydia MAb Conjugate: Routes of Entry into the Body: Inhalation and ingestion; skin contact. Sodium azide in its pure form is highly toxic when inhaled, swallowed or absorbed through the skin. Thimerosal contains mercury, which in its pure form is highly toxic when inhaled, swallowed or absorbed through the skin.

PBS salts: Routes of Entry into the Body: Inhalation and ingestion; skin contact.

Buffered Glycerol Mounting Medium: Routes of Entry into the Body: Inhalation and ingestion; skin contact.

No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of these solutions.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to proteins (e.g., antibodies).

Section VII: Precautions for Safe Handling and Use

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhtusa.com

Product should be handled using Good Laboratory Practices.
If a solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 15°C; store in the dark.

Section VIII: Control Measures

General Protection and Precautions:

Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.

Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.

Hygiene Practices: Hands should be washed after working with this product.

Disposal Practices: Check with regulatory agencies to determine at what concentration sodium azide may cause a product to be regulated as a hazardous waste. When discarding *Chlamydiae MAb Conjugate* (which contains sodium azide) into sewerage, always flush with copious amounts of water. This helps to prevent formation of metallic azides, which in high concentration, may be potentially explosive. Thimerosal –containing reagents should be disposed of as a hazardous waste.

The above information is believed to be correct, but Diagnostic Hybrids, Inc., does not purport it to be all-inclusive; this should be used only as a guide.

Refer to the Product Insert for this Product for additional details on the proper storage, handling, use, and disposal of the reagents included in this Product. [end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Code: 03-08000
Product Name: DFA Reagents for the Culture Confirmation of HSV (Bivalent)

Rev. Date: 01-24-03

Section I: Company Information and Chemical Product

Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: Direct Fluorescence Antibody Reagents for the Culture Confirmation of HSV (Bivalent)
Synonyms: HSV Antigen Detection Kit; Direct FA for Detection of HSV; HSV Antibody Kit HSV DFA.
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information

None of the ingredients at the concentrations used is known to be hazardous.
HSV MAb Conjugate is an aqueous buffered solution of antibody conjugated with fluorescein isothiocyanate, with Evan's blue counterstain at a concentration of 0.007%, and with sodium azide and thimerosal added at concentrations of 0.1% as preservatives.
PBS salts is a vial of the powdered or crystalline forms of sodium phosphate and sodium chloride.
Buffered Glycerol Mounting Medium is an aqueous solution of glycerol.
HSV Antigen Control Slides are microscope slides onto which cultured cells infected with Herpes simplex virus have been grown then fixed (killed) with acetone; a drying agent is included in the foil envelope to preserve antigen integrity; there is no residual acetone present.

Section III: Physical/Chemical Characteristics

HSV MAb Conjugate is a clear blue solution; odorless.
PBS salts is a dry mixture of the salts sodium phosphate and sodium chloride; white.
Buffered Glycerol Mounting Medium is a clear colorless, slightly viscous, solution.
HSV Antigen Control Slides are glass microscope slides, coated with a blue pigment except for two clear areas; the clear areas are coated with acetone-fixed cellular material.

Boiling and Freezing Points for all components are near those of pure water.

Section IV: Fire and Explosion Hazard Data

Not Applicable

Section V: Reactivity Data

Not Applicable

Section VI: Health Hazard Data

HSV Antigen Control Slides: Routes of Entry into the Body: Skin contact – may be harmful by skin absorption. If glass slide is broken, may pose a cut-skin hazard.

HSV MAb Conjugate: Routes of Entry into the Body: Inhalation and ingestion; skin contact. Sodium azide in its pure form is highly toxic when inhaled, swallowed or absorbed through the skin. Thimerosal contains mercury, which in its pure form is highly toxic when inhaled, swallowed or absorbed through the skin.

PBS salts: Routes of Entry into the Body: Inhalation and ingestion; skin contact.

Buffered Glycerol Mounting Medium: Routes of Entry into the Body: Inhalation and ingestion; skin contact.

No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of these solutions.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to proteins (e.g., antibodies).

Section VII: Precautions for Safe Handling and Use

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product should be handled using Good Laboratory Practices.
If a solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 15°C; store in the dark.

Section VIII: Control Measures

General Protection and Precautions:

Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.

Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.

Hygiene Practices: Hands should be washed after working with this product.

Disposal Practices: Check with regulatory agencies to determine at what concentration sodium azide may cause a product to be regulated as a hazardous waste. When discarding *HSV MAb Conjugate* (which contains sodium azide) into sewerage, always flush with copious amounts of water. This helps to prevent formation of metallic azides, which, in high concentration, may be potentially explosive. Thimerosal –containing reagents should be disposed of as a hazardous waste.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide.

Refer to the Product Insert for this Product for additional details on the proper storage, handling, use, and disposal of the reagents included in this Product. [End]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: 55-01xx, 55-24xx, 55-96xx
Product Name: Elvis® HSV Cells

Rev. Date: 06-01-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: Elvis® HSV Cells
Synonyms: Baby Hamster Kidney Cells genetically engineered to include a plasmid containing the G418 resistance marker and a plasmid containing the *E. coli lacZ* gene driven by the promoter from the HSV type 1 UL39 gene.
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
CAUTION: Contains a monolayer of Elvis® HSV cells, which should be handled in accordance with Biosafety Level 2 (moderate biohazard) conditions (Reference: Biosafety in Microbiological and Biomedical Laboratories, 3rd ed., U.S. Public Health Service.)
Cells are cultured in an aqueous biological salt- and nutrient-containing medium, which also contains fetal bovine serum at 7%, with Penicillin and Streptomycin as antimicrobials.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum components.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices, in accordance with Biosafety Level 2 conditions.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 18°C to 37°C.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide. [end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: 00-000100, 00-000200, 00-000500, 00-001000
Product Name: Elvis® HSV *Detection* System

Rev. Date: 06-13-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
West State Street
Athens, OH 45701
740-593-1784

Product Name: Elvis® HSV *Detection* System
Synonyms: Enzyme Linked Virus Inducible System for Herpes Simplex Virus Isolation and Identification; Elvis® HSV Rapid Test; HSV Detection Assay. Also, a reagent set, to be used in conjunction with Elvis® HSV Cells, containing Elvis® HSV Cell Fixative (Solution 1) and Elvis® HSV Staining Buffer (Solution 2).
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
Elvis® HSV Cell Fixative (Solution 1) is an aqueous acetone solution.
Elvis® HSV Staining Buffer (Solution 2) is a phosphate-buffered substrate solution that contains N, N-Dimethylformamide.

Section III: Physical/Chemical Characteristics
Elvis® HSV Cell Fixative (Solution 1) is a clear solution containing acetone, with a pungent organic odor; volatile.
Elvis® HSV Staining Buffer (Solution 2) is a clear yellow solution; odorless.

Boiling Point for Solution 1 is 55.6 to 56.6°C; Freezing Point for Solution 1 is –94°C.
Boiling and Freezing Points for Solution 2 are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Solution 1 (acetone solution): FLAMMABLE.

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Solution 1 (acetone solution): Routes of Entry into the Body: Inhalation and ingestion; skin contact. May be harmful by inhalation, ingestion, or skin absorption. Causes severe eye irritation. Causes skin irritation. Material may be irritating to mucous membranes and upper respiratory tract.
Solution 2: Routes of Entry into the Body: Inhalation and ingestion; skin contact. A potential carcinogen. Avoid inhalation and skin contact.

No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of these solutions.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to acetone.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
If a solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 15°C to 30°C.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct, but Diagnostic Hybrids, Inc., does not purport it to be all-inclusive; this should be used only as a guide.
[end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: 00-010060, 00-010300
Product Name: Elvis® HSV *Id/Typing* System

Rev. Date: 06-13-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
West State Street
Athens, OH 45701
740-593-1784

Product Name: Elvis® HSV *Id/Typing* System
Synonyms: Enzyme Linked Virus Inducible System for Herpes Simplex Virus Isolation, Identification, and Typing; Elvis® HSV Rapid Test; HSV Detection and Typing Assay.
Also, a reagent set, to be used in conjunction with Elvis® HSV Cells, containing Elvis® HSV Cell Fixative (Solution 1), Elvis® HSV Staining Buffer (Solution 2T), Elvis® HSV monoclonal antibody FITC conjugate (Solution 3), and Elvis® HSV Mounting Fluid .
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
Elvis® HSV Cell Fixative (Solution 1) is an aqueous acetone solution.
Elvis® HSV Staining Buffer (Solution 2T) is a phosphate-buffered substrate/antibody solution that contains N, N-Dimethylformamide.
Elvis® HSV monoclonal antibody FITC conjugate (Solution 3) is a Tris-buffered antibody solution with sodium azide.
Elvis® HSV Mounting Fluid is a glycerol solution with sodium azide.

Section III: Physical/Chemical Characteristics
Elvis® HSV Cell Fixative (Solution 1) is a clear solution containing acetone, with a pungent organic odor.
Elvis® HSV Staining Buffer (Solution 2T) is a clear green solution; odorless.
Elvis® HSV monoclonal antibody FITC conjugate (Solution 3) is a clear light straw-colored solution; odorless.
Elvis® HSV Mounting Fluid is a clear colorless-to-nearly-pink, slightly viscous, solution.

Boiling Point for Solution 1 is 55.6 to 56.6°C; Freezing Point for Solution 1 is –94°C.
Boiling and Freezing Points for the other components are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Solution 1 (acetone solution): FLAMMABLE.

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Solution 1 (acetone solution): Routes of Entry into the Body: Inhalation and ingestion; skin contact. May be harmful by inhalation, ingestion, or skin absorption. Causes severe eye irritation. Causes skin irritation. Material may be irritating to mucous membranes and upper respiratory tract.
Solution 2T: Routes of Entry into the Body: Inhalation and ingestion; skin contact. A potential carcinogen. Avoid inhalation and skin contact.
Solution 3, and
Mounting Fluid: Routes of Entry into the Body: Inhalation and ingestion; skin contact. Sodium azide in its pure form is highly toxic when inhaled, swallowed or absorbed through the skin.

No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of these solutions.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to acetone or proteins (e.g., antibodies).

Diagnostic Hybrids, Inc.
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dhiusa.com

Section VII: Precautions for Safe Handling and Use

Product should be handled using Good Laboratory Practices.
If a solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 15°C; store in the dark.

Section VIII: Control Measures

General Protection and Precautions:

Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.

Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.

Hygiene Practices: Hands should be washed after working with this product.

Disposal Practices: When discarding Solution 3 (which contains sodium azide) into sewerage, always flush with copious amounts of water. This helps prevent formation of metallic azides , which in high concentration, may be potentially explosive.

The above information is believed to be correct, but Diagnostic Hybrids, Inc., does not purport it to be all-inclusive; this should be used only as a guide. [end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: 10-220026,10-220100, 10-220500
Product Name: Elvis® Replacement Medium

Rev. Date: 06-13-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: Elvis® Replacement Medium (for the detection of HSV-1 and HSV-2 viruses in Elvis®HSV cell culture)
Synonyms: Elvis® RM
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
7% fetal bovine serum in an aqueous, biological salt and nutrient-containing solution; contains Penicillin , Streptomycin, and Amphotericin B as antimicrobials.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum, penicillin, streptomycin, or amphotericin B.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 8°C

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct, but Diagnostic Hybrids, Inc., does not purport it to be all-inclusive; this should be used only as a guide. [end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
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dhiusa.com

Product Codes: 92-xxxx
Product Name: E-Mix C Cell Culture

PI065 v1.0 Rev. Date: 01-28-2003

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: E-Mix C Cell Culture
Synonyms: super E-Mix; A549 + super BGMK.
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
Contains a monolayer of cells that includes cells which have been transfected with DNA sequences. Product should be handled in accordance with Biosafety Level 2 (moderate biohazard) conditions (Reference: Biosafety in Microbiological and Biomedical Laboratories, 3rd ed., U.S. Public Health Service.)
Cells are cultured in an aqueous biological salt- and nutrient-containing medium, which also contains fetal bovine serum at 4-10%, with Gentamicin as an antimicrobial.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum components.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices, in accordance with Biosafety Level 2 conditions.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 18°C to 37°C.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide. [end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
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Product Codes: 10-380500, 10-380100
Product Name: E-Mix Refeed Medium

Issue Date: 01-07-03

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: E-Mix Refeed Medium
Synonyms: Replacement Medium; Defined Medium
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
An aqueous, biological salt and nutrient-containing solution; contains fetal bovine serum; contains Penicillin and Streptomycin as antimicrobials. Also contains non-hazardous quantities of a proprietary reagent [OSHA Regulations (Standards-29CFR) Hazard Communication-1910.1200(i)(1)].

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; light orange-to-pink in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine products, penicillin or streptomycin.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 8°C

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

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[end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: 10-380500, 10-380100
Product Name: E-Mix Refeed Medium

Issue Date: 01-07-03

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: E-Mix Refeed Medium
Synonyms: Replacement Medium; Defined Medium
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
An aqueous, biological salt and nutrient-containing solution; contains fetal bovine serum; contains Penicillin and Streptomycin as antimicrobials. Also contains non-hazardous quantities of a proprietary reagent [OSHA Regulations (Standards-29CFR) Hazard Communication-1910.1200(i)(1)].

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; light orange-to-pink in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine products, penicillin or streptomycin.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 8°C

Section VIII: Control Measures
General Protection and Precautions:

Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct but Diagnostic Hybrids, Inc., does not purport it to be all-inclusive; this should be used only as a guide.

[end]

FreshCells™

Singles and *Mixed*

Multiwell Plate, Shell Vial and Tube Cultures
Cell cultures for use in virus and/or *Chlamydia* isolation.
For *In Vitro* Diagnostic Use

INTENDED USE. Diagnostic Hybrids' *FreshCells*™ cultures are intended for virus and/or Chlamydia isolation and to aid in the diagnosis of diseases associated with infectious agents. These cells should not be used for serial propagation. For *in vitro* diagnostic use.
FreshCells™ are provided in the following two distinct product formats:

- *Singles* - monolayers of a single cell line in Multiwell Plates, Glass Round or Flat Bottom Tubes, and Shell Vials with or without coverslip.
- *Mixed (Patented)* – monolayers of two cell lines mixed at approximately equal cell density in Multiwell Plates and Shell Vials with or without coverslips.

SUMMARY AND EXPLANATION. Specific cell cultures provide the necessary living host systems for the propagation of viruses and *Chlamydia*. Such cultures are used in the isolation, detection and identification of these infectious agents. The procedure typically consists of incubating the suspect specimen with an appropriately sensitive cell line. This incubation period is variable and is dependent on the detection system used. The classic detection method is the observation of cellular changes due to infection of the cells, termed cytopathic effect (CPE). In recent years the use of monoclonal antibodies against specific infectious agents to confirm an agent's identity has become widely accepted; this method has increased the sensitivity of the cell culture system and decreased the time to infectious agent detection.

More recently, investigators have discovered the multiple benefits offered by mixing two or more different cell lines to form a single monolayer. Combining two cell lines in a single monolayer makes detection of viruses to each susceptible cell line possible in a single container. When combined with centrifugation-enhancement methods and detection of early viral antigens, mixed monolayers can reduce the number of individual cell culture units used to diagnose a broader range of viruses, and can do so in significantly less time.

Precautions

The Cells are for *In Vitro* Diagnostic Use.

Cell cultures used for virus isolation may have some potential to be hazardous. Personnel working with these cultures and specimens must be properly trained in virus culture and safe handling techniques as described in the CDC-NIH manual, *Biosafety in Microbiological and Biomedical Laboratories*, 1999. Manipulations which present potential personnel hazards should be conducted in a Class II hood with gloves worn at all times. Cultures should be used (inoculated) prior to their labeled expiration date.Cultures and specimens should be autoclaved or disinfected with a 1:100 final dilution of household bleach prior to disposal.

Materials Provided. FreshCells™ are provided as single (Table 1) or mixed (Table 2) cell line monolayers adhered to the bottoms of multiwell (96, 48, and 24) polystyrene plates, shell vials, glass coverslips contained in shell vials or multiwell plates, glass culture tubes or polystyrene culture tubes. The cell lines available in single and mixed monolayer format, and their susceptibility to the indicated infectious agents, are found in Table 1and Table 2, respectively.
FreshCells™ are characterized by isoenzyme analysis and have been tested and found free of *Mycoplasma* sp. and other adventitious organisms. The sources (American Type Culture Collection [ATCC] and other commercial vendors) and the highest passage number used by DHI for each cell line is given in the preceding table. The current passage number of the specific cell line is noted on the Lot specification report supplied with each cell shipment and is also available upon request.
Storage Instructions. As with any cell culture, FreshCells™ must be protected from extremes in temperature and light. Upon receipt, the cell cultures should be stored at 22°C to 28°C in a clean and dark or low light intensity area and in such a fashion that the monolayers are covered with medium.
Quality Control. Positive and negative controls should be run with each batch of specimens tested for virus or *Chlamydia*. Negative controls consist of uninoculated monolayers that otherwise are handled the same as the inoculated monolayers.
LIMITATIONS. Aging of cell cultures can result in loss of sensitivity to virus production. To minimize this effect, FreshCells™ cultures are available twice a week. FreshCells™ should be used for inoculations before their labeled expiration date.
Harsh conditions encountered during shipping may affect the shelf life of cell cultures. For this reason, all cultures should be examined for appearance and morphology prior to inoculation with the specimen.
NOTE: The plastic of Multi-Well Plates or Tubes is compatible with methanol and ethanol, commonly used fixatives. However, 100% acetone will degrade the plastic. Eighty to 85% acetone in water is compatible with the plastic and has been found to yield cell morphology and fluorescent antibody results substantially equivalent to 100% acetone on glass coverslips. The individual laboratory should demonstrate substantial equivalence using their method and reagents with the Multiwell Plate and plastic tube cultures.

REFERENCES

Available upon request, contact DHI Technical Services at 1-800-344-5847

Diagnostic Hybrids, Inc.
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1-800-344-5847
PI055v0803

Table 1. FreshCells™ *Singles* and their virus susceptibility profile.

CELL LINE/ORIGIN (*Source / Maximum Number of Passages*)	INFECTIOUS AGENTS
A549/Human Lung Carcinoma *(ATCC / P100)*	Adenovirus, HSV, Influenza, Measles, Mumps, Parainfluenza, Poliovirus, RSV, Rotavirus, Varicella-Zoster
BGMK/Buffalo Green Monkey Kidney *(Commercial / P100)*	*Chlamydia*, HSV, Coxsackie B, Poliovirus.
CV-1/African Green Monkey Kidney *(ATCC / P50)*	HSV, Measles, Mumps, Rotavirus, Varicella-Zoster.
HeLa/Human Cervix Adenocarcinoma *(ATCC / P9)*	Adenovirus, CMV, Echovirus, HSV, Poliovirus, Rhinovirus, Vesicular stomatitis (Indiana Strain) virus and VZV.
HeLa 229/Human Cervix Adenocarcinoma *(ATCC / P9)*	Adenovirus, CMV, Echovirus, HSV, Poliovirus, Rhinovirus, Vesicular stomatitis (Indiana Strain) virus and VZV.
HEL/Human Embryonic Lung *(ATCC / P9)*	Adenovirus, CMV, Echovirus, HSV, Poliovirus, Rhinovirus, Vesicular stomatitis (Indiana Strain) virus and VZV.
HEp-2/Human Epidermoid Carcinoma *(ATCC / P390)*	Adenovirus, Coxsackie B, Herpes Simplex, Measles, Parainfluenza, Poliovirus, RSV.
HFF/Human Foreskin Fibroblasts *(ATCC / P20)*	Adenovirus, CMV, Echovirus, HSV, Mumps, Poliovirus, Rhinovirus, VZV.
HNK/Human Neonatal Kidney	Adenovirus, HSV, Varicella-Zoster
LLC-MK_2, Original/Rhesus Monkey Kidney *(ATCC / P315)*	Poliovirus type 1, Enterovirus, Rhinovirus, Myxovirus and Poxvirus groups.
MvlLu/Mink Lung *(ATCC / P175)*	HSV, CMV, Influenza A and B
McCOY/Mouse *(ATCC / P40 beyond ATCC)*	*Chlamydia*, HSV.
MDCK/Madin-Darby Canine Kidney *(ATCC / P70)*	Influenza A, B, some types of Adenovirus, Reovirus, Coxsackie virus.
MRC-5/Human Fetal Lung *(ATCC / P27)*	Adenovirus, CMV, Echovirus, HSV, Influenza, Mumps, Poliovirus, Rhinovirus, RSV, VZV.
NCI-H292/Human, Pulmonary muco-epidermoid carcinoma. *(ATCC / P100)*	Vaccinia virus, HSV, Adenovirus, BK poly- omavirus, Reoviruses, Measles virus, RSV, some strains of Influenza type A, most Enteroviruses and Rhinoviruses.
RD/Human Rhabdomyosarcoma	Adenovirus, Echovirus, HSV, Poliovirus
Vero 76/African Green Monkey Kidney Cells *(ATCC / P150)*	Adenovirus, Coxsackie B, HSV, Measles, Mumps, Poliovirus type 3, Rotavirus, Rubella, West Nile Virus
Vero/African Green Monkey Kidney Cells *(ATCC / P150)*	Adenovirus, Coxsackie B, HSV, Measles, Mumps, Poliovirus type 3, Rotavirus, Rubella
WI-38/Human Lung *(ATCC / P20)*	Adenovirus, CMV, Echovirus, HSV, Influenza, Mumps, Poliovirus, Rhinovirus, RSV, VZV.

Table 2. *Mixed* FreshCells™ and their virus susceptibility profile.

CELL LINE/ORIGIN (*Source / Maximum Number of Passages*)	INFECTIOUS AGENTS
R-Mix: MvlLu and A549 Mink Lung *(ATCC / P175)* *And* Human Lung Carcinoma *(ATCC / P100)*	HSV, CMV, Influenza A and B *And* Adenovirus, HSV, Influenza, Measles, Mumps, Parainfluenza, Poliovirus, RSV, Rotavirus.
H &V Mix: CV-1 and MRC-5 CV-1/African Green Monkey Kidney *(ATCC/P50)* *And* MRC-5/Human Fetal Lung *(ATCC / P27)*	HSV, VZV, Poliovirus type 1, some encephalitis viruses, SV40 virus *And* Adenovirus, CMV, Echovirus, HSV, Influenza, Mumps, Poliovirus, Rhinovirus, RSV, VZV.
E Mix: BGMK with daf and A549 Buffalo Green Monkey Kidney *And* Human Lung Carcinoma *(ATCC / P100)*	*Chlamydia*, HSV, Coxsackie B, Coxsackie A, ECHOvirus, and Poliovirus. *And* Adenovirus, HSV, Influenza, Measles, Mumps, Parainfluenza, Poliovirus, RSV, Rotavirus.

Diagnostic Hybrids, Inc.
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MATERIAL SAFETY DATA SHEET

Product Codes: 98-xxxx
Product Name: H&V-Mix™ MixedCells

PI-112v1.0 Rev. Date: 02-01-2004

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: H&V-Mix™ MixedCells
Synonyms: (CV1 + MRC-5) cell culture; mixed culture of African green monkey kidney and human embryonic lung cells
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
The cell culture and its liquid covering are not hazardous as defined by OSHA, 29CFR Part 1910.1200.
The cell culture, being live, should be considered a potential biohazard. It is a layer on the bottom of the vessel.
The liquid covering the culture is an aqueous biological salt- and nutrient-containing medium, which also contains bovine serum at 4 to 10%, with Gentamicin sulfate included as an antimicrobial

Section III: Physical/Chemical Characteristics
Contents: Clear, aqueous liquid; cherry-peach to red/pink in color; odorless. Boiling and Freezing Points are near those of pure water.
Container: Either glass tube or vial or polystyrene plastic tube or multi-well plate. Tubes are sealed with polypropylene screw-caps; vials sealed with polyethylene stoppers; plates sealed with polyethylene laminate film.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Stable. Hazardous polymerization will not occur.

Section VI: Health Hazard Data
Material is not known to harbor agents known to cause disease in healthy adult humans. It has not been screened for Hepatitis, human immunodeficiency viruses or other adventitious agents. Components have been cultured and used in the laboratory for a number of years.
Routes of Entry into the Body: Skin contact; ingestion.
No toxicity is expected from contact with Eyes or Skin or from inhalation or ingestion of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum components.

Section VII: Precautions for Safe Handling and Use
During shipping and at receipt: Handle material in accordance with **BIOSAFETY LEVEL 1** conditions.
During use and disposal: Handle material using Good Laboratory Practices, in accordance with **BIOSAFETY LEVEL 2** conditions, as product potentially may be inoculated with human specimen material.
If solution is spilled: take up with an absorbent material; if contact is possible, wear gloves as protection. Decontaminate with suitable disinfectants such as chlorine bleach or 70% ethyl or isopropyl alcohol.
Storage Temperature: 18°C to 30°C.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

Additional references:
Biosafety in Microbiological and Biomedical Laboratories, 4th ed, 1999; U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health.

ATCC Quality Control Methods for Cell Lines, 2nd ed, 1992; American Type Culture Collection.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide.
[End]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Codes: F-54-0102, F-54-0102-12, F-54-0102-24
Product Name: McCoy Cells as ***ReadyCells®*** Frozen Monolayers Rev. Date: 07-27-2005

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: McCoy ***ReadyCells®*** Frozen Monolayers
Synonyms: None
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
Contains Dimethyl sulfoxide (DMSO)
Glass container
Storage conditions: Extreme cold: -70°C or colder
The frozen cell culture, being live, should be considered a potential biohazard. It is a layer on the bottom of the vessel. The liquid covering the culture is an aqueous biological salt containing solution, which contains DMSO.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; amber to red in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
This product contains a dilute solution of Dimethyl sulfoxide (DMSO); however, pure DMSO is combustible. To extinguish, use water spray, carbon dioxide, dry chemical powder or appropriate foam.

Section V: Reactivity Data
Stable. Hazardous polymerization will not occur.

Section VI: Health Hazard Data
Chemical: Routes of Entry into the Body: Skin contact, inhalation, ingestion. Avoid contact with Eyes or Skin or from inhalation or ingestion of the solution. Solution contains low concentration of DMSO and may be toxic.
Physical: Glass poses risk of cuts to skin.

Section VII: Precautions for Safe Handling and Use
During shipping and at receipt: Handle material in accordance with **BIOSAFETY LEVEL 1** conditions.
Protect skin from extreme cold by wearing protective gloves.
During laboratory use: Handle material using Good Laboratory Practices, in accordance with **BIOSAFETY LEVEL 2** conditions, as product potentially may be inoculated with human specimen material
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
If glass is broken, pick up pieces (wearing protective gloves). Dispose of in appropriate containers.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

Additional references:
Biosafety in Microbiological and Biomedical Laboratories, 4th ed, 1999; U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health.
ATCC Quality Control Methods for Cell Lines, 2nd ed, 1992; American Type Culture Collection.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide.
[end]

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

MATERIAL SAFETY DATA SHEET

Product Codes: Multiple Codes by Cell type
Product Name: Multiple Cell line types

PI-031v1.5 Rev. Date: 6/5/03

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: FreshCells™ Cell Cultures
Synonyms: Cultured cells; tube cultures; shell vials; cell cultures for virology
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
The cell culture and its liquid covering are not hazardous as defined by OSHA 1910.1200.
The cell culture, being live, should be considered a potential biohazard. It is a layer on the bottom of the vessel.
The liquid covering the culture is an aqueous biological salt- and nutrient-containing medium, which also contains fetal bovine serum at 7%, with one or more antimicrobials (Penicillin, Streptomycin, Gentamicin, and/or Amphotericin B)

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red/pink in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Stable. Hazardous polymerization will not occur.

Section VI: Health Hazard Data
Material is not known to harbor agents known to cause disease in healthy adult humans. It has not been screened for Hepatitis, human immunodeficiency viruses or other adventitious agents. It has been cultured and used in the laboratory for a number of years.
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or from inhalation or ingestion of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum components.

Section VII: Precautions for Safe Handling and Use
During shipping and at receipt: Handle material in accordance with **BIOSAFETY LEVEL 1** conditions.
During use and disposal: Handle material using Good Laboratory Practices, in accordance with **BIOSAFETY LEVEL 2** conditions, as product potentially may be inoculated with human specimen material.
If solution is spilled: take up with an absorbent material; if contact is possible, wear gloves as protection. Decontaminate with suitable disinfectants such as chlorine bleach or 70% ethyl or isopropyl alcohol.
Storage Temperature: 18°C to 30°C.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

Additional references:
Biosafety in Microbiological and Biomedical Laboratories, 4th ed, 1999; U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health.

ATCC Quality Control Methods for Cell Lines, 2nd ed, 1992; American Type Culture Collection.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide. Please contact Diagnostic Hybrids, Inc. if additional information is required.

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

MATERIAL SAFETY DATA SHEET

Product Codes: 96-01xx, 96-0600, 96-24xx, 96-48xx, 96-96xx
Product Name: R-Mix™ MixedCells PI-031v1.0 Rev. Date: 11-07-2002

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West Street
Athens, OH 45701
740-593-1784

Product Name: R-Mix™ MixedCells
Synonyms: (A549 + Mv1Lu) cell culture; mixed culture of human lung (carcinoma) and mink lung (normal) cells
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
The cell culture and its liquid covering are not hazardous as defined by OSHA 1910.1200.
The cell culture, being live, should be considered a potential biohazard. It is a layer on the bottom of the vessel.
The liquid covering the culture is an aqueous biological salt- and nutrient-containing medium, which also contains fetal bovine serum at 7%, with Penicillin and Streptomycin as antimicrobials.

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; cherry-peach to red in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Stable. Hazardous polymerization will not occur.

Section VI: Health Hazard Data
Material is not known to harbor agents known to cause disease in healthy adult humans. It has not been screened for Hepatitis, human immunodeficiency viruses or other adventitious agents. It has been used in the laboratory since 1972.
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or from inhalation or ingestion of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine serum components.

Section VII: Precautions for Safe Handling and Use
During shipping and at receipt: Handle material in accordance with **BIOSAFETY LEVEL 1** conditions.
During use: Handle material using Good Laboratory Practices, in accordance with **BIOSAFETY LEVEL 2** conditions, as product potentially may be inoculated with human specimen material.
If solution is spilled, take up with an absorbent material; if contact is possible, wear gloves as protection. Decontaminate with suitable disinfectants such as chlorine bleach or 70% ethyl or isopropyl alcohol.
Storage Temperature: 18°C to 30°C.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

Additional references:
Biosafety in Microbiological and Biomedical Laboratories, 4th ed, 1999; U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention and National Institutes of Health.

ATCC Quality Control Methods for Cell Lines, 2nd ed, 1992; American Type Culture Collection.

The above information is believed to be correct, but Diagnostic Hybrids, Inc. does not purport it to be all-inclusive; this should be used only as a guide.
[end]

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
dhiusa.com

Product Code: 10-330026,10-330100, 10-330500
Product Name: Refeed Medium for Respiratory Viruses, Formulation 03T

Issue Date: 06-06-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: Refeed Medium (for the Culture of R-Mix cells for detection of Respiratory Viruses)
Synonyms: RFM-03T; Refeed Medium 03T; R-Mix Refeed Medium; Replacement Medium
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.
An aqueous, biological salt and nutrient-containing solution; contains Penicillin and Streptomycin as antimicrobials, and bovine trypsin. Also contains non-hazardous quantities of a proprietary reagent [OSHA Regulations (Standards-29CFR) Hazard Communication-1910.1200(i)(1)].

Section III: Physical/Chemical Characteristics
Clear, aqueous liquid; light orange-to-pink in color; odorless. Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Routes of Entry into the Body: Inhalation and ingestion.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of the solution.
Medical conditions that may be aggravated by exposure: Allergy or hypersensitivity to bovine products, penicillin or streptomycin.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices.
If solution is spilled, absorb using an absorbent material and, if contact is possible, wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: 2° to 8°C

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Area ventilation is generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof.
Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.

The above information is believed to be correct but we do not purport it to be all-inclusive; it should be used only as a guide.

MATERIAL SAFETY DATA SHEET

Diagnostic Hybrids, Inc.
350 West State Street, Athens, OHIO 45701
(740) 593-1784 FAX (740) 593-0980
http://www.dhiusa.com

Product Code: 20-xxxxx
Product Name: Virus Control Stocks

Rev. Date: 10-04-01

Section I: Company Information and Chemical Product
Diagnostic Hybrids, Inc.
350 West State Street
Athens, OH 45701
740-593-1784

Product Name: Virus Control Stocks
Synonyms: Frozen Suspensions of Viruses; Virus Control Stocks; Virus Proficiency Panel. Product may include one or more of the following: Herpes simplex virus, Cytomegalovirus, Varicella zoster, Influenza, Adenovirus, Respiratory syncytial virus, Parainfluenza, Echovirus, Coxsackievirus, Chlamydia.
Chemical Formula: Not Applicable
Molecular Weight: Not Applicable

Section II: Hazardous Ingredients/Identity Information
None of the ingredients at the concentrations used is known to be hazardous.

Section III: Physical/Chemical Characteristics
Frozen liquid suspensions.
Boiling and Freezing Points are near those of pure water.

Section IV: Fire and Explosion Hazard Data
Not Applicable

Section V: Reactivity Data
Not Applicable

Section VI: Health Hazard Data
Material is not hazardous as defined by OSHA 1910.1200.
No toxicity is expected from contact with Eyes or Skin or ingestion or inhalation of these solutions.
The microorganisms in this material may cause disease in humans or animals.
Laboratory hazards may be encountered via autoinoculation, ingestion, mucous membrane exposure.

Section VII: Precautions for Safe Handling and Use
Product should be handled using Good Laboratory Practices, Biosafety Level 2: Material should be handled by qualified microbiologists using appropriate safety procedures and precautions.
If a solution is spilled, contain the spill and decontaminate using suitable disinfectants such as chlorine bleach or 50-70% ethyl or isopropyl alcohol; wear gloves as protection. Dispose of in appropriate containers.
Storage Temperature: -50° C or lower.

Section VIII: Control Measures
General Protection and Precautions:
Protective Measures: Handle as biohazardous material under Biosafety Level 2 containment. Area ventilation should be generally adequate; avoid generation of dusts, mists or other airborne forms when working with the product.
Protective Gear: Gloves should be waterproof. Safety Glasses should be worn to protect eyes from any hazard.
Hygiene Practices: Hands should be washed after working with this product.
Disposal Practices: Dispose of this material, and cultures or other materials exposed to this material, by autoclaving at 121° C for 20 minutes. Follow all Federal, State and local regulations.

The above information is believed to be correct, but Diagnostic Hybrids, Inc., does not purport it to be all-inclusive; this should be used only as a guide.

Refer to the Product Insert for this Product for additional details on the proper storage, handling, use, and disposal of the reagents included in this Product. [end]

MSDS

Material Safety Data Sheets

Specimen Processing

011211

Material Safety Data Sheets

011212

Material Safety Data Sheet

Sanisorb ™

Identity (Trade Name as Used on Label)

Manufacturer:	MULTISORB TECHNOLOGIES, INC. (formerly Multiform Desiccants, Inc.)	MSDS Number* :	
Address:	325 Harlem Road Buffalo, NY 14224	CAS Number* :	
Phone Number (For Information):	716/824-8900	Date Prepared:	December 8, 1995
Emergency Phone Number:	716/824-8900	Prepared By* :	G.E. McKedy

Section 1 - Material Identification and Information

Components - Chemical Name & Common Names (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	%*	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMENDED
Non-Hazardous Ingredients DRY ACRYLIC POLYMER BLEND	100			
TOTAL	100			

Section 2 - Physical/Chemical Characteristics

Boiling Point	N.A.	Specific Gravity (H_2O = 1)	0.5 - 0.86
Vapor Pressure (mm Hg and Temperature	N.A.	Melting Point	350°F (177°C)
Vapor Density (Air =1)	N.A.	Evaporation Rate (=1)	N.A.
Solubility in Water	Insoluble.	Water Reactive	Not reactive, but will readily adsorb moisture.
Appearance and Odor	White powder, odorless.		

Section 3 - Fire and Explosion Hazard Data

Flash Point and Methods Used	None	Auto-Ignition Temperature	N.A.	Flammability Limits in Air % by Volume	N.A.	LEL	UEL
Extinguisher Media	Dry chemical, carbon dioxide, water spray, foam or water fog.						
Special Fire Fighting Procedures	Avoid the creation of dust. Will create slippery conditions if released in the presence of water.						
Unusual Fire and Explosion Hazards	Avoid the creation of a dusty environment.						

Section 4 - Reactivity Hazard Data

STABILITY ☒ **Stable** ☐ **Unstable**	Conditions To Avoid	Store away from water in a cool dry place.
Incompatibility (Materials to Avoid)	None.	
Hazardous Decomposition Products	None.	
HAZARDOUS POLYMERIZATION ☐ May Occur ☒ Will Not Occur	Conditions To Avoid	Store away from water in a cool dry place.

011213

Section 5 - Health Hazard Data

PRIMARY ROUTES OF ENTRY	☒ Inhalation ☒ Skin Absorption	☒ Ingestion ☐ Not Hazardous	**CARCINOGEN LISTED IN**	☐ NTP ☐ IARC Monograph ☐ OSHA ☒ Not Listed
HEALTH HAZARDS	Acute	None.		
	Chronic	None.		
Signs and Symptoms of Exposure	Possible irritation to skin and eyes with overexposure.			
Medical Conditions Generally Aggravated by Exposure	None.			
EMERGENCY FIRST AID PROCEDURES - Seek medical assistance for further treatment, observation and support if necessary.				
Eye Contact	Flush eyes with copious amounts of water. Assure adequate flushing of the eyes by separating the eyelids with fingers.			
Skin Contact	Flush skin with copious amounts of water.			
Inhalation	Remove to fresh air.			
Ingestion	If large quantity is ingested, induce vomiting.			

Section 6 - Control and Protective Measures

Respiratory Protection (Specify Type)	Under normal conditions, respiratory protection is not required unless irritation is noticed. When Bulk quantities are used, wear appropriate NIOSH/MSHA approved respirator.		
Protective Gloves	Wear gloves if appropriate for cleaning situation with biohazard.	Eye Protection	Goggles if Bulk quantities are used.
VENTILATION TO BE USED	☐ Local Exhaust Normal for small quantities.	☐ Mechanical (General) For larger quantities.	☐ Special For Bulk quantities.
	☐ Other (Specify)		
Other Protective Clothing and Equipment	Rubber gloves and goggles.		
Hygienic Work Practices	Wash thoroughly after handling and wash soiled clothing before reuse .		

Section 7 - Precautions for Safe Handling and Use/Leak Procedures

Steps to be Taken if Material Is Spilled Or Released	Avoid making dust, extinguish ignition sources, sweep/shovel into suitable containers and properly dispose. Ventilate area and wash site after material pick up is complete.
Waste Disposal Methods	Dispose of all waste according to federal, state and local regulations taking into consideration the material that was absorbed.
Precautions to be Taken In Handling and Storage	Store in cool dry area. Avoid moisture contamination. Keep tightly closed, do not get in eyes, on skin or clothing, wash thoroughly after handling.
Other Precautions and/or Special Hazards	Avoid making dust, material becomes slippery when wet and can create a slipping/falling hazard.

Material Safety Data Sheet

Main Ingredient in Model 1290 Coolant

SECTION 1 - PRODUCT INFORMATION

Product ID: NCI 598061 1,4 BUTANEDIOL

Common Chemical Name: 1,4 - Butanediol

Synonyms: 1,4 Butylene Glycol

Molecular Formula: HOCH (2) CH (2) CH(2) CH(2) OH

Molecular Wt: 90.1

Chemical Family: Glycol

SECTION 2 - INGREDIENTS

Chemical Name: Butanediol HP

CAS #: 110-63-4

Amount: **100%**

PEL/TLV Data: **Not established**

SECTION 3 - PHYSICAL PROPERTIES

Color: Colorless

Form/Appearance: Oily Liquid

Odor: Nearly odorless

Odor Intensity: None

Spc. Gravity: 1.015

pH: 7-8 su

Boiling Pt: 229° C @ 1 atmosphere pressure

Freezing Pt: <19° C @1 atmosphere pressure

Decomp. Tmp: Not Available

Solubility in Water Description: Miscible

Vapor Pressure: <1 Millibars @ 20° C

Vapor Density: 3.1

SECTION 4 - FIRE AND EXPLOSION DATA

Flash Pt: 134° C Method: DIN 51 758

Autoignition: 370° C Method: None specified

Extinguishing Media: Use water fog, foam or dry chemical extinguishing media.

Fire Fighting Procedures: Firefighters should be equipped with self-contained breathing apparatus and turn out gear.

Unusual Hazards: Low when exposed to heat or flames. It can react with oxidizing material.

SECTION 5 - HEALTH EFFECTS

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gasses include inhalation and eye and skin contact.

Toxicology Test data:

Rat, Oral LD50-1500 MG/KG Moderately Toxic
Rat, Dermal LD50 - >2000 MG/KG Slightly Toxic
Rabbit, Primary Skin Irritation - Nonirritating
Rabbit, Eye Irritation (unrinsed) - Nonirritating

Acute Overexposure Effects: Contact with the eyes and skin may result in slight irritation. If ingested, 1,4-butanediol is a depressant. Symptoms of acute overexposure include deep narcosis, constriction of pupils, and loss of reflexes. Damage to the kidneys has also been reported after ingestion.

011216

Chronic Overexposure Effects: There are no known chronic effects associated with this material.

First Aid Procedures - Skin: Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. If irritation develops, get medical attention.

First Aid Procedures - Eyes: Immediately wash eyes with running water for 15 minutes. If irritation develops, get medical attention.

First Aid Procedures - Ingestion: If swallowed, dilute with water and immediately induce vomiting. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.

First Aid Procedures - Inhalation: Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

First Aid Procedures - Notes to Physicians: None known.

First Aid Procedures - Aggravated Medical Conditions: No data is available which addresses medical conditions that are generally recognized as being aggravated by exposure to this product. Please refer to Section 5 (Effects of Overexposure) for effects observed in animals.

First Aid Procedures - Special Precautions: None

SECTION 6 - REACTIVITY DATA

Reactivity - Stability Data: Stable.

Reactivity - Incompatibility: Strong oxidizing agents.

Reactivity - Conditions/Hazards to Avoid: Avoid exposure to temperatures >150° C.

Reactivity - Hazardous Decomposition/Polymerization: HAZARDOUS DECOMPOSITION PRODUCTS: Unstable when heated, can form flammable THF at >150° C. Other decomposition products include CO, COX.

Polymerization: Does not occur.

Reactivity - Corrosive Properties: Not corrosive.

Reactivity - Oxidizer Properties: Not an Oxidizer.

SECTION 7 - PERSONAL PROTECTION

Personal Protection - Clothing: Gloves, coveralls, apron, boots as necessary to minimize contact.

Personal Protection - Eyes: Chemical goggles; also wear a face shield if splashing hazard exists.

Personal Protection - Respiration: If vapors or mists are generated, wear a NIOSH/MSHA approved organic vapor/mist respirator.

Personal Protection - Explosion Proofing: See Section 4 - Fire and Explosion Data.

Other Personal Protection Data: Eyewash fountains and safety showers must be easily accessible. Shower after handling.

SECTION 8 - SPILL - LEAK/ENVIRONMENTAL

Spill/Leak Procedures - General: Spills should be contained, solidified and placed in suitable containers for disposal in a licensed facility. This material is not regulated by RCRA or CERCLA (Superfund). Wear appropriate respiratory protection and protective clothing and provide adequate ventilation during clean-up.

Spill/Leak Procedures - Waste Disposal: Incinerate or bury in a licensed facility. Do not discharge into waterways or sewer systems without proper authority.

Spill/Leak Procedures - Container Disposal: Dispose of in a licensed facility. Recommend crushing or other means to prevent unauthorized reuse.

Environmental Toxicity Test Data: Golden Orfe, static 96 hr LC50 - > 10 MG/L

Insignificant Hazard

Degradability in water, Static Test - > 60 PERCENT

Readily Degradable by Biological Proc.

SECTION 9 - STORAGE AND HANDLING

Storage and Handling - General: Keep containers closed.

Other Storage and Handling Data:

Consult other sections of this MSDS for information on reactivity and flammability.

SECTION 10A - FEDERAL REGULATORY INFORMATION

TSCA Inventory Status

Listed on Inventory: YES

RCRA Haz. Write No.:

CSRCLA: NO Reportable Qty.: (If YES)

SECTION 10B - STATE REGULATORY INFORMATION

State Regulatory Information: (By Component) NJ/PA/MA RTX

CAS #: 110-63-4 NO
NAME: Butanediol

SECTION 10C - OTHER REGULATORY INFORMATION

Hazard Ratings:

Health:	**Fire:**	**Reactivity:**	**Special:**
HMIS	1	1	0
NFPA	1	1	0

Rekrut,Kay A

From: Tyler,Ginny M
Sent: Tuesday, September 16, 2003 11:08 AM
To: Fratzke,Brent K; Novak,Susan M; Rekrut,Kay A
Subject: Room Temperature Coolants

http://www.sebra.com/thermasu.htm
After talking to Brent, there were a few questions on the coolant the donor centers are currently using.
Above is the web site for the sebra coolant (Platelet Stabilizer) we use to transport Platelets- which must be maintained at Room Temperature. They are about 10.5 x 7.75 inches and a little less than 0.5 inches thick when frozen. They cannot be put directly -- so there needs to be something between them and the culture bottles.

The current boxes for culture bottles hold about 20 culture bottles. It would be fine if that number were reduced - say to 16 or whatever to accommodate the sebra coolants. That would be enough for most places, and they probably would have 2 shipments a day, so they do not delay getting results back and releasing products. That is if you can reconfigure the current boxes, or get something similar.

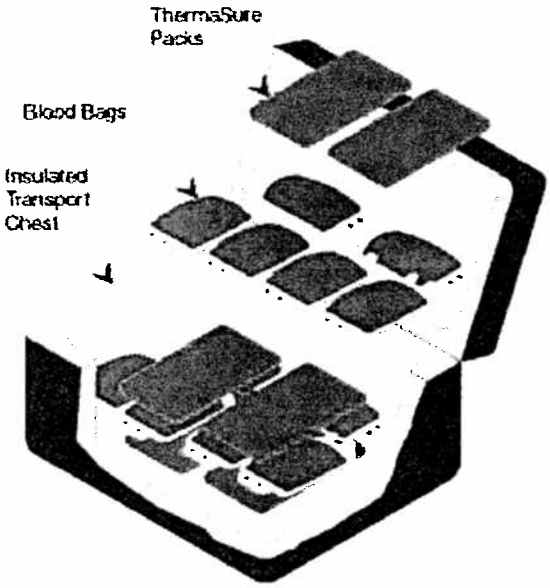
So let me know if there is anything else you would need to know. Thanks again.

Ginny Tyler
Regional Compliance Officer
Kaiser Permanente, Southern California
Phone: 562-461-4103 Cell Phone: 818-266-7479
Fax: 562-461-6606 Pager: 818-463-0042
email: ginny.m.tyler@kp.org

011220

Whole Blood Cooling and Platelet Transport

SEBRA Model 1290 ThermaSure provides temperature stability between 16°C and 20°C in either hot or cold climates. ThermaSure rapidly cools whole blood units from body temperature (37°C) to approximately 20°C and then maintains the temperature during transport. ThermaSure also provides temperature control for platelets and other biological components (reference: Code of Federal Regulations 640.24).

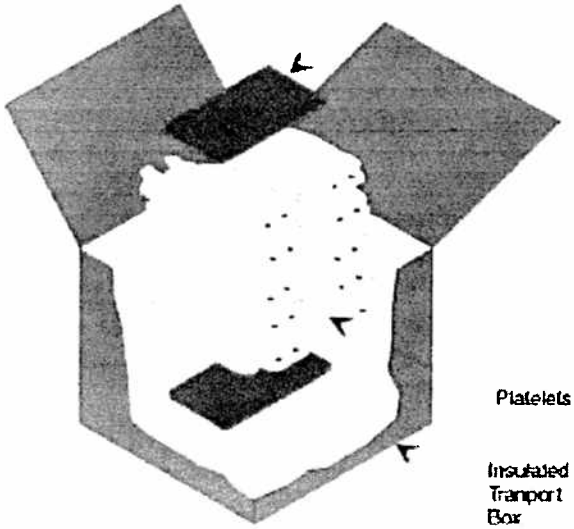


ThermaSure can be easily layered with whole blood bags in a well-insulated transport chest, as seen above.

ThermaSure Benefits

- Protects product at desired temperature, unlike ice.
- Maintains temperature stability for up to 12 hours in either hot or cold climates when used in a well-insulated transport chest.
- Cost effective, as it can be used for years.
- Recharges in a standard refrigerator at 4°C - 6°.
- Heavy duty casing is leak and puncture resistant.
- Non-flammable, water soluble and harmless to skin.

To maintain room temperature, use two ThermaSure packs with each single donor platelet unit or up to ten random donor platelet units.



Material Safety Data Sheet

MATERIAL SAFETY DATA SHEETS FOR PARAFORMALDEHYDE DECONTAMINATION

Material Safety Data Sheet

Hoechst Celanese

Chemical Group
Hoechst Celanese Corporation
P.O. Box 569320 / Dallas, Texas 75356-9320
Information phone: 214 689 4000
Emergency phone: 800 424 9300 (CHEMTREC)

Paraformaldehyde prills, 91-93%

Issued October 18, 1991

#69

Identification

Product name: Paraformaldehyde prills, 91-93%

Chemical name: Paraformaldehyde

Chemical family: Aldehyde polymer

Formula: $HO(CH_2O)_nH$

Molecular weight (average): 600

CAS number: 30525-89-4

CAS name: Paraformaldehyde

Synonyms: Paraform, polyoxymethylene.

Department of Transportation information
Shipping name: Paraformaldehyde
Hazard classification: ORM-A
United Nations number: UN2213
Emergency Response Guide no.: 32
Reportable Quantity: 1000 lb/454 kg

Physical data

Boiling point (760 mm Hg): Does not boil. Gives off formaldehyde gas when heated.

Melting range: 120-170°C (248-338°F)

Vapor pressure (25°C): 1.45 mm Hg

Vapor density (Air = 1 @ 20°C): 1.03 (calculated)

Solubility in water (% by WT @ 20°C): Complete

Percent volatiles by volume: <10

Particle density: 1.4 g/ml

Appearance and odor: White free-flowing solid prill with strong, pungent formaldehyde odor.

Fire and explosion hazard data

Flammable limits in air, % by volume
Upper: 73.0
Lower: 7.0

Flash point (test method):
Tag closed cup (ASTM D56): 158°F (70°C)

Extinguishing media:
Use CO_2 or dry chemical for small fires, alcohol-type aqueous film-forming foam or water spray for large fires.

Special fire-fighting procedures:
* If potential for exposure to vapors or products of combustion exists, wear complete personal protective equipment and respirator approved by both NIOSH and MSHA and within the working limits of the respirator:

Self-contained breathing apparatus with full facepiece operated in pressure demand or other positive pressure mode.

Supplied-air respirator with full facepiece and operated in pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Use water spray to cool fire-exposed structures and vessels.

Unusual fire and explosion hazards:
Do not use compressed air to transfer this material.

Component information (See Glossary at end of MSDS for definitions)[1]

Component, wt. % (CAS number)	Exposure levels: OSHA PEL TWA	ACGIH TLV® TWA	IDLH	Subject to SARA §313 reporting?
• Paraformaldehyde, 91-93% (30525-89-4)	15 mg/m³, total dust; 5 mg/m³, respirable fraction	10 mg/m³, total dust[2]	NVE[3]	No
• Water, 9% max. (7732-18-5)	NVE[3]	NVE[3]	NVE[3]	No
• Formaldehyde, off-gas (50-00-0)	1 ppm; 2 ppm, STEL (15)	1 ppm; 2 ppm, STEL (15)	100 ppm	Yes

(1) All components listed as required by federal, California, New Jersey and Pennsylvania regulations.
(2) Hoechst Celanese has adopted the ACGIH TLV.
(3) No value established.

Special hazard designations

	HMIS	NFPA	Key
Health:	3	2	0 - Minimal
Flammability:	1	1	1 - Slight
Reactivity:	0	0	2 - Moderate
Personal protective equipment:	G	—	3 - Serious
			4 - Severe

SARA §311 hazard categories

Acute health:	Yes
Chronic health:	Yes
Fire:	Yes
Sudden release of pressure:	Yes
Reactive:	No

Reactivity data

Stability:
Stable.

Hazardous polymerization:
Will not occur.

Conditions to avoid:
Temperatures above 100°F (38°C); sparks; flame.

Materials to avoid:
Caustic soda, soda ash and other alkalis; acids; amines; oxygen, hydrogen peroxide and other strong oxidizing agents.

Hazardous combustion or decomposition products:
Carbon monoxide; formaldehyde vapor.

Health data

Effects of exposure/toxicity data

Acute

Ingestion (swallowing): Causes severe irritation and inflammation of mouth, throat and stomach. Severe stomach pains follow, with possible loss of consciousness. Slightly toxic to animals (oral LD_{50}, rats: 0.68 g/kg).

Inhalation (breathing): Highly irritating to nasal passages. Can cause inflammation of lining of nose, throat and lungs. Can cause pneumonia and pulmonary edema (accumulation of fluid in the lungs). Signs and symptoms of pulmonary edema can be delayed for several hours. Sensitizer (allergic reaction possible). May cause sensitization of the respiratory system. Moderately toxic to animals (inhalation LC_{50}, rats, 4 hrs: 1.1 mg/l).

Skin contact: Can cause moderate injury – reddening and swelling. Sensitizer (allergic reaction possible). Dust can cause drying, cracking and scaling. Repeated or prolonged contact causes hardening (tanning). Slightly toxic to animals by absorption (dermal LD_{50}, rabbits: >2 g/kg).

Eye contact: Can cause chemical burn – damage irreversible. Exposure to high vapor concentrations, or to dust, causes irritation and tearing.

(continued)

* New or revised information; previous version dated May 21, 1990.

Chronic

Mutagenicity: *In vitro*, formaldehyde is mutagenic (mutagenic activity detected in *E. coli, Pseudomonas fluorescens,* and *Saccharomyces cervisiae). In vivo*, no information.

Carcinogenicity: Formaldehyde is carcinogenic to animals (nasal cancer, lifetime inhalation study, rats). Listed as an experimental animal carcinogen (IARC, NTP), a probable human carcinogen (IARC), and a potential cancer hazard (OSHA).

Reproduction: Formaldehyde showed no evidence of reproductive effects in animal studies (mice, rats, dogs).

Other: Formaldehyde – no evidence of effects on liver, kidneys, nervous system or blood in 180-day studies of rats, monkeys or hamsters.

Medical conditions aggravated by exposure:
Significant exposure to this chemical may adversely affect people with chronic disease of the respiratory system, skin and/or eyes.

Emergency and first aid procedures

Ingestion (swallowing): Induce vomiting of conscious patient immediately by giving two glasses of water and pressing finger down throat. Contact a physician immediately.

Inhalation (breathing): Remove patient from contaminated area. If breathing has stopped, give artificial respiration, then oxygen if needed. Contact a physician immediately.

Skin contact: Remove contaminated clothing and wash contaminated skin with large amounts of water. If irritation persist, contact a physician.

Eye contact: Flush eyes with water for at least 15 minutes. Contact a physician immediately.

Spill or leak procedures

Steps to be taken if material is released or spilled:
Eliminate ignition sources. Avoid eye or skin contact. Place leaking containers in well-ventilated area. Neutralize with ammonium hydroxide or sodium sulfite. NOTE: This reaction is reversible. All clean-up and disposal should be carried out in accordance with federal, state and local regulations. If required, state and local authorities should be notified. Use standard clean-up procedures such as vacuuming or sweeping.

Waste disposal method:
This product when spilled or disposed is a non-hazardous solid waste as defined in Resource Conservation Recovery Act regulations (40 CFR 261). Product must be disposed of properly under state regulations for industrial waste. Preferred method is incineration or biological treatment in federal/state approved facility.

Special protection information

Respiratory protection:
*Based on contamination level and working limits of the respirator, use a respirator approved by both NIOSH and MSHA (respirators are listed in order from minimum to maximum respiratory protection):

Chemical cartridge respirator with full facepiece and organic vapor cartridge(s) in combination with a dust and mist filter.

Chemical cartridge respirator with full facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter.

Gas mask with organic vapor canister (chin-style or front- or back-mounted canister), with a full facepiece and a high-efficiency particulate filter.

Powered air-purifying respirator with tight-fitting facepiece and organic vapor cartridge(s) in combination with a high-efficiency particulate filter.

Type 'C' supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure mode or with a full facepiece, helmet or hood operated in continuous-flow mode.

Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

Ventilation

Local exhaust: Recommended when appropriate to control employee exposure.

Mechanical (general): Not recommended as the sole means of controlling employee exposure.

Protective gloves:
Neoprene or rubber.

Eye protection:
Chemical safety goggles.

Other protective equipment:
For operations where spills can occur, use impervious body covering and boots. A safety shower and eye bath should be available.

Special precautions

Precautions to be taken in handling and storing:
*Caution: Flexible intermediate bulk containers can build static electrical charge while contents are being emptied. Do not allow contents to free fall in areas where potential flammable air-vapor or air-dust mixtures exist. Use proper grounding procedures when transferring. For example, use of a grounded intermediate hopper or conveyor is recommended.

Store in a cool, well-ventilated area. Do not expose to temperatures above 38°C (100°F). Keep away from heat, sparks and flame. Keep containers closed. Use only DOT-approved containers. Provide emergency exhaust. Avoid breathing dust or vapor. Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use. Discard contaminated leather clothing. Do not enter storage area unless adequately ventilated.

*Regulatory information

OSHA Formaldehyde Standard
This product is capable of emitting free formaldehyde and is covered by the OSHA Formaldehyde Standard, 29 CFR 1910.1048.

Federal Insecticide, Fungicide, and Rodenticide Act
Hoechst Celanese formaldehyde-based products are not registered nor intended for any active ingredient use associated with pesticides, fungicides, rodenticides, or any activities requiring registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

* New or revised information; previous version dated May 21, 1990.

* Glossary for Components information table

ACGIH – American Conference of Governmental Industrial Hygienists
CAS – Chemical Abstracts Service
Ceiling – The concentration that should not be exceeded during any part of the working day.
IDLH – Immediately Dangerous to Life or Health
OSHA – Occupational Safety and Health Administration
PEL – Permissible exposure limit
SARA – Superfund Amendments and Reauthorization Act
Skin – Potential contribution to overall exposure possible via skin absorption.
STEL – Short-term exposure limit: 15-min. time-weighted average
TLV – Threshold limit value
TWA – 8-hour time-weighted average

Chemical Group
Hoechst Celanese Corporation
P.O. Box 569320/Dallas, Texas 75356-9320
Information phone: 214 689 4000
Emergency phone: 800 424 9300 (CHEMTREC)

011225

* The supplier makes no warranty of any kind, express or implied, concerning the use of this product either singly or in combination with other substances. Effects can be aggravated by other materials. This product may aggravate or add to the effects of other materials. This product may be released from gas, liquid or solid materials made directly or indirectly from it. User assumes all risks incident to its use. User must communicate to its employees and customers, including consumers of its products, all warnings that relate to the potential exposure of each of those groups to the material. To the best of our knowledge, the information contained herein is accurate. However, neither Hoechst Celanese Corporation nor any of its subsidiaries or affiliates assume any liability whatsoever for the accuracy or completeness of the information contained herein. The Hoechst name and logo are registered trademarks of Hoechst AG.

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
0 / 2 / 0	Health Hazard 2 Fire Hazard 0 Reactivity 0	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Ammonium carbonate**	Code	A5010
		CAS#	506-87-6
Manufacturer	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	RTECS	BP1925000
		TSCA	TSCA 8(b) inventory: *Ammonium carbonate*
Commercial Name(s)	Not available.	CI#	Not available.
Synonym	Not available.	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Name			
Chemical Family	Not available.		
Chemical Formula	(NH4)2CO3		
pplier	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Ammonium carbonate	506-87-6				100

Toxicological Data on Ingredients

Ammonium carbonate
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects

Hazardous in case of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
The substance is toxic to lungs, mucous membranes.
Repeated or prolonged exposure to the substance can produce target organs damage.

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention.
Serious Skin Contact	Not available.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Serious Inhalation	Not available.
Ingestion	Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container.

Section 7. Handling and Storage

Precautions	Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible.
Storage	No specific storage is required. Use shelves or cabinets sturdy enough to bear the weight of the chemicals. Be sure that it is not necessary to strain to reach materials, and that shelves are not overloaded.

Continued on Next Page

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	Odor	Not available.
Molecular Weight	96.11 g/mole	Taste	Not available.
pH (1% soln/water)	Not available.	Color	Not available.

Boiling Point	*Not available.*
Melting Point	Decomposes. (60°C or 140°F)
Critical Temperature	Not available.
Specific Gravity	1.5 (Water = 1)
Vapor Pressure	Not applicable.
Vapor Density	Not available.
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water.
Solubility	Soluble in cold water.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	*Not available.*
Incompatibility with various substances	Not available.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Not available.
Special Remarks on Corrosivity	Not available.
Polymerization	No.

Continued on Next Page

Section 11. Toxicological Information

Routes of Entry	Eye contact. Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	The substance is toxic to lungs, mucous membranes.
Other Toxic Effects on Humans	Hazardous in case of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant).
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Not available.

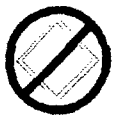
Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are more toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	: Not available. : NA9084 PG: III
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

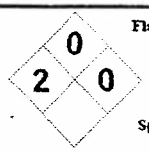
Federal and State Regulations	Pennsylvania RTK: Ammonium carbonate Massachusetts RTK: Ammonium carbonate TSCA 8(b) inventory: Ammonium carbonate CERCLA: Hazardous substances.: Ammonium carbonate	
California Proposition 65 Warnings		
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).	
Other Classifications	WHMIS (Canada)	CLASS D-2A: Material causing other toxic effects (VERY TOXIC).
	DSCL (EEC)	R36- Irritating to eyes.

Continued on Next Page

HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)



WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Dust respirator. Be sure to use an *approved/certified respirator or* equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16. Other Information

Catalog Number(s)	**A1152, A1154, A1155, AM173**
References	Not available.
Other Special Considerations	Not available.

Validated by G. A. Binas on 6/23/99.	**Verified by G. A. Binas.** **Printed 6/25/99.**

CALL (310) 516-8000

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
2 0	Health Hazard 2 Fire Hazard 1 Reactivity 0	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Methenamine**	Code	M3710
Manufacturer	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS#	100-97-0
		RTECS	MN4725000
		TSCA	TSCA 8(b) inventory: Methenamine
Commercial Name(s)	Hexamine	CI#	Not available.
Synonym	Hexamethylenetetramine		
Chemical Name		IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Family	Not available.		
Chemical Formula	C6H12N4		
Supplier	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Methenamine	100-97-0				100

Toxicological Data on Ingredients

Methenamine
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure is not known to aggravate medical condition.

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	*Allow the victim to rest in a well ventilated area. Seek immediate medical attention.*
Serious Inhalation	*Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or* waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.
Ingestion	Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Flammable.
Auto-Ignition Temperature	410°C (770°F)
Flash Points	CLOSED CUP: 250°C (482°F).
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).
Fire Hazards in Presence of Various Substances	Flammable in presence of open flames and sparks.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Flammable solid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill	Flammable solid. Stop leak if without risk. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

Continued on Next Page

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes
Storage	Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. Keep container dry. Keep in a cool place.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit
Personal Protection	Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	Odor	Not available.
Molecular Weight	140.19 g/mole	Taste	Not available.
pH (1% soln/water)	8 [Basic.]	Color	Not available.

Boiling Point	Not available.
Melting Point	Sublimes. (263°C or 505.4°F)
Critical Temperature	Not available.
Specific Gravity	1.331 (Water = 1)
Vapor Pressure	Not applicable.
Vapor Density	4.83 (Air = 1)
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coeff.	The product is more soluble in oil; log(oil/water) = 135
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water.
Solubility	Easily soluble in cold water.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Not available.
Incompatibility with various substances	Not available.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Not available.
Special Remarks on Corrosivity	Not available.

Continued on Next Page

Polymerization	No.

Section 11. Toxicological Information

Routes of Entry	Eye contact. Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Not available.
Other Toxic Effects on Humans	Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The products of degradation are more toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Recycle to process, if possible. Consult your local or regional authorities.

Section 14. Transport Information

DOT Classification	CLASS 4.1: Flammable solid.
Identification	: Hexamethylenetetramine : UN1328 PG: III
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	TSCA 8(b) inventory: Methenamine
California Proposition 65 Warnings	
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
Other Classifications	WHMIS (Canada) CLASS B-4: Flammable solid.

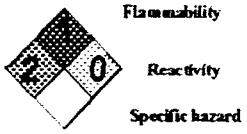
Continued on Next Page

DSCL (EEC) R36/38- Irritating to eyes and skin.

HMIS (U.S.A.)

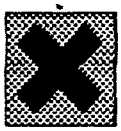
Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)



WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16. Other Information

Catalog Number(s)	ME120, M1217
References	Not available.
Other Special Considerations	Not available.

Validated by G. A. Binas on 6/23/99.

Verified by G. A. Binas.
Printed 8/19/99.

MATERIAL SAFETY DATA SHEETS

The Material Safety Data Sheet (MSDS) is the most valuable reference source for both the employee and the Chemical Hygiene or Safety Officer. It gives most of the information necessary in evaluating the hazards of chemicals that employees may be exposed to in the workplace. It has been a requirement in California since April 21, 1983, for information and training on hazardous substances to be provided to each employee prior to assignment to any work area in which the employee has not received previous information or training.

Just as each employee's medical record should be preserved maintained for at least the duration of employment plus thirty years, every MSDS related to an employee exposure in the workplace should be similarly retained and be available on request. The Chemical Hygiene Officer has the responsibility in the clinical laboratory to maintain and update a library of all Material Safety Data Sheets and to provide employee training which must include as a minimum:

1. Any health hazards known to be associated with exposure to the hazardous substance(s).

2. Proper instructions for handling, necessary personal protective equipment or other safety precautions necessary to prevent or minimize exposure to the hazardous substance(s).

3. Emergency procedures to be followed for spills, fire, disposal and first aid.

Material Safety Data Sheets are usually composed of nine sections. These are as follows:

1. **PRODUCT IDENTIFICATION** - which contains the manufacturer's name, address, regular emergency telephone numbers (including area code) and the trade or common name of the product along with any of its commonly used synonyms.

2. **HAZARDOUS INGREDIENTS** - which contains components of the product identified according to a recognized system of nomenclature. The percentages of hazardous ingredients are often given along with the class of hazard they present such as flammability, reactivity, toxicity, etc. Exposure limit values such as PELs for components of product are usually listed in this section. Be aware the California exposure limits are many times more restrictive than Federal regulations.

3. **PHYSICAL DATA** - which describes what the material or mixture is like and how it behaves. Included are such characteristics as boiling point, melting point, freezing point, specific gravity, vapor pressure, solubility or vapor density. Its important to know some of these characteristics when handling the hazardous product.

4. **FIRE AND EXPLOSION HAZARD DATA** - which gives flash point, autoignition temperature and lower and upper flammability limits. Knowledge of the lower flammability limit aids in determining the volume of ventilation needed for an enclosed space to prevent fires and explosions. Emergency response information for fighting fires is usually found in this section.

5. **HEALTH HAZARD INFORMATION** - which gives a combined estimate of the hazard of the total product sometimes as a concentration standard in air. Common symptoms of over-exposure are given along with first aid steps to be taken in case of eye or skin contact, inhalation, or ingestion. These are emergency procedures only and the victim should be examined by a doctor as soon as possible after exposure.

6. **REACTIVITY DATA** - which gives the stability of the product under any conditions of storage, handling, use or misuse. Incompatibilities to other common materials or contaminants are listed such as acids reacting to bases. Hazardous decomposition products are detailed as well as the products propensity to undergo hazardous polymerization, a chemical reaction which gives off an extremely high or uncontrolled release of energy.

7. **SPILL, LEAK AND DISPOSAL PROCEDURES** - which gives precautions to be taken in the event of spills or leaks and equipment, absorbents, or decontaminants to be used. Evacuation protocol or need for special safety personnel will be listed in this section. Waste disposal requirements and procedures will also be detailed. Be aware that local, state and federal regulations may vary and the most stringent applies.

8. **SPECIAL PROTECTION INFORMATION** - gives appropriate protective equipment to wear when handling the product as well as ventilation requirements to minimize contamination or potential hazardous conditions such as flammable or explosive atmospheric concentration in the workplace.

9. **SPECIAL PRECAUTIONS** - gives any additional or special precautions not addressed elsewhere in the MSDS. It may also contain reference sources for obtaining additional information as well as the name and address of the responsible person who completed the MSDS and the date the information was compiled.

Client Support Services
Specimen Processing Department
Regional Reference Laboratories
Southern California Permanente Medical Group

KAISER PERMANENTE

Regional Reference Laboratories
11668 Sherman Way, North Hollywood, CA 91605

Environmental Health and Safety
2005 Chemical Inventory: Specimen Processing Department
Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
3-in-One Multi-Purpose Oil	Oil	--	WD-40	Plastic	236 ml	5	6/1/2003	1/1/2005	No	No	No
Accent Plus Amino Lotion	Lotion	--	Ecolab/Huntington Skin Care	Plastic	540 ml	4	7/21/2005	7/21/2005	No	No	No
Acetone	Slide ink removal	--	Solutions	Plastic	250 ml	1	8/18/2004	8/18/2004	Acetaldehyde, benzene, formaldehyde	No	No
Allstar Satin Cleaning solution	Stainless steel cleaner and polish	U17530	Unisource/GA Pacific	Aerosol	20 oz	12	6/12/2003	6/12/2003	No	No	No
Ant-Stop Ant Killer Bait	--	--	Ortho	Can	4.7 g	0	11/27/2000	11/27/2000	No	No	No
Bacti-Stat Healthcare Personnel Hand Wash	Hand soap	61048722	Ecolab/Huntington Skin Care	Plastic	540 ml	3	3/2/2005	3/2/2005	No	No	No
Bleach, 10%	--	--	Solutions	Plastic	500 ml	3	8/29/1997	8/29/1997	No	No	No
Bleach, 10%	--	--	Solutions	Plastic	250 ml	8	8/29/1997	8/29/1997	No	No	No
Bleach, 10%	--	--	Solutions	Plastic	3.8 L	1	8/29/1997	8/29/1997	No	No	No
Bleach, Waxie	Bleach	--	Waxie	Plastic	1 gal	1	4/28/2004	6/7/2004	No	No	No
Butcher's Speedball Power Cleaner	Cleaner	4043110	The Butcher Company	Plastic	1 gal	1	6/25/2003	7/15/2003	No	No	No
Comet Disinfectant Cleanser with Chlorinol	Detergent	--	Procter and Gamble	Carton	1.31 lbs	1	6/1/2001	2/1/2000	No	No	No
Dust Off XL	Duster	DPSXL	Falcon	Aerosol	312 ml	1	10/6/2004	10/6/2004	No	No	No
Electro-Safe Safety Solvent Degreaser	--	410581	Waxie	Aerosol	20 oz	1	10/22/1997	10/22/1997	Perchloroethylene, trichloroethylene	No	No
Food Grade Silicone Lubricant	--	81246	Loctite	Aerosol	13 oz	1	9/3/2004	9/3/2004	No	No	No
Food Grade Silicone Lubricant and Release Agent	--	00210	Sprayon/Sherwin Williams	Aerosol	16 oz	1	11/3/2005	11/3/2005	No	No	No
GooGone Pro-Power	Solvent	GG1200	GooGone/Magic American Products	Plastic	236 ml	1	12/18/2002	12/18/2002	No	No	No
Isopropanol, 70%	Alcohol	--	Solutions	Plastic	500 ml	1	8/18/2004	8/18/2004	No	No	No
Isopropanol, 70%	Alcohol	--	Solutions	Metal	2.5 L	1	8/18/2004	8/18/2004	No	No	No
Isopropanol, 70%	Alcohol	--	Solutions	Plastic	250 ml	0	8/18/2004	8/18/2004	No	No	No
Keri Fast-Absorbing Lotion	Lotion	00239	Bristol-Myers Squibb	Plastic	35 ml	12	8/26/1998	11/1/2000	No	No	No
Lithium Grease, Multipurpose	Grease	--	LubriMatic Stant	Plastic	3 oz	0	3/15/2002	3/15/2002	Carbon black	No	No
Lysol Brand II Disinfectant Spray, Original Scent	Lysol disinfectant	36241-04675-07	Lysol/Reckitt Benckiser	Aerosol	19 oz	0	8/8/2002	8/8/2002	No	No	No

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2005 Chemical Inventory: Specimen Processing Department

Sorted alphabetically

Material Name	Synonyms	Cat. #	Manufacturer	Container	Amount	Qty	MSDS Issue Date	MSDS Revision Date	Prop 65 Content	Cr-Related Substance	Title 22 Metals
Matar 0.39%	--	--	Solutions	Plastic	2.5 gal	1	3/11/2005	3/11/2005	o-Phenyl phenol sodium salt	No	No
Mobil SHC 634 Synthetic lubricating oil, Enclosed gear lubricant	Lubricant	51493	Boston Gear	Plastic	0.95 L	1	4/4/2002	4/4/2002	Naphthalene	No	No
Plexiglass Plus Cleaner	Cleaner	870040	Waxie	Plastic	946 ml	5	4/6/2005	4/6/2005	No	No	No
Screen Cleaner	--	12163A	Kensington	Plastic	118 ml	1	8/13/1991	5/1/2002	No	No	No
Silicone Spray Lubricant, heavy duty	Lubricant	M9-14	Radiator Specialty/ Solder Seal Gunk	Aerosol	11 oz	2	4/28/2005	4/28/2005	No	No	No
Sodium hydroxide 1N	--	--	Solutions	Plastic	1 gal	1	10/19/2004	10/19/2004	No	No	No
Soft-Cide Extra Mild Healthcare Personnel Hand Wash Antimicrobial Strength	Hand soap	C6341-10	Erie Scientific/ Allegiance/Stahmer Weston Scientific	Plastic	946 ml	1	6/24/1998	3/1/2000	No	No	No
TFE Pipe Thread Sealer with Teflon	--	14003	Anti-Seize Technology	Plastic	3 oz	1	4/15/2002	4/15/2002	No	No	No
WD-40	Lubricant	--	WD-40	Aerosol	--	0	11/1/2003	12/1/2004	No	No	No
Weld-On 4	--	C-4-0690	IPS Corporation	Metal	118 ml	1	5/1/2004	3/1/2005	Methylene chloride	No	No
Zep Anti-bacterial Disinfectant and Cleaner	--	--	Zep Commercial	Plastic	3.8 L	0	2/4/2003	2/4/2003	No	No	No

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Client Support Services
Specimen Processing Department
Regional Reference Laboratories
Southern California Permanente Medical Group

MSDS TABLE OF CONTENTS

1. MSDS Description
2. Bleach - 10 %
3. Cida-Steryl 28 - Gluteraldehyde - 2 %
4. Isopropyl Alcohol - 70 %
5. Reagent Alcohol - S/P Brand → 210 Plastic Cleaner
6. Meridian Para-Pak SAF Fixative
7. B/D Media - Potato Dextrose Tube
8. B/D Sabouraud Dextrose Agar
9. B/D TSA 5 % Sheep Blood/ MacConkey II Biplate
10. B/D 7 H 11 Middlebrook Agar
11. B/D SABHI Agar
12. B/D Columbia CNA 5 % Sheep Blood
13. B/D Alkaline Peptone Water
14. B/D Hektoen Enteric Agar
15. B/D BCYE Selective Agar with PAC
16. B/D Regan-Lowe Charcoal Agar
17. B/D MacConkey II Agar with Sorbitol
18. B/D Chocolate II Agar
19. B/D MacConkey II Agar
20. B/D Thioglycollate Broth
21. B/D Campythioglycollate
22. Digene HPV Transport Media
23. Microtest M-5 Universal Transport Media (Viral/Chlamydial/Mycoplasmal)
24. Cytology Sputum Fixative - 50 % Reagent Alcohol
25. Cytology Fixative - 10 % Neutral Buffered Formalin
26. Behring-Syva Chlamydia EIA Transport Media
27. Dry Mop (Sanisorb)
28. Zep Antibacterial Disinfectant
29. Model 1290 Coolant

DISCLAIMER

If unable to locate MSDS for a material, please contact the Solutions department at extension 6840 to obtain MSDS from their Master Files.

For after-hours, contact Security at extension 6562 to gain access to the Solutions department and obtain MSDS from Master Files (green binders above work bench).

3-IN-ONE®

Fire 1 | Reactivity 0 | Health 1 | Special 0 | NFPA

.. PRODUCT IDENTIFICATION

Manufacturer:	WD-40 Company	Telephone:	
		Emergency only:	1-800-424-9300 (Chemtrec)
Address:	1681 Cudahy Place (92110)	Information:	(619) 275-1400
	P.O. Box 80607	Chemical Name:	Organic Mixture
	San Diego, California	Trade Name:	**Three-In-One Multi-Purpose Oil**
	92138-0607		

II. HAZARDOUS INGREDIENTS

Chemical Name	CAS Number	%	Exposure Limit ACGIH/OSHA
Severely Hydrotreated Heavy Naphthenic Oil	64742-52-5	>97	5mg/M^3 TWA (mist)
Non-hazardous Ingredients		<3	

III. PHYSICAL DATA

Appearance:	Clear amber liquid	Volatiles:	Nil
Odor:	Faint citronella	pH:	Not applicable
Boiling Point:	Above 550°F	Specific Gravity:	0.866 - 0.923 @ 20°C
Freezing Point:	Not applicable	Vapor Pressure:	Not determined
Solubility in Water:	Insoluble	Vapor Density (Air = 1):	Not determined

IV. FIRE AND EXPLOSION

Flash Point:	Above 305°F TOC
Flame Extension:	Not applicable
Extinguishing Media:	$C0_2$, Dry Chemical, Foam, Water Spray
Fire Fighting Procedures:	Use water to keep fire-exposed containers cool.

V. HEALTH HAZARD / ROUTE(S) OF ENTRY

Symptoms of Overexposure

Inhalation (Breathing): May cause anesthesia, headache, dizziness, nausea and upper respiratory irritation.
Skin Contact: May cause drying of skin and/or irritation.
Eye Contact: May cause irritation, tearing and redness.
Ingestion (Swallowed): May cause irritation, nausea, vomiting and diarrhea.

First Aid Procedures:

Ingestion (Swallowed): Do not induce vomiting. Seek medical attention.
Eye Contact: Immediately flush eyes with large amounts of water for 15 minutes.
Skin Contact: Wash with soap and water.
Inhalation (Breathing): Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

DANGER!

Aspiration Hazard: If swallowed, can enter lungs and may cause chemical pneumonitis. Do not induce vomiting. Call Physician immediately.

011242

Suspected Cancer Agent

Yes_____ No__X__ The components in this mixture have been found to be noncarcinogenic by NTP, IARC and OSHA.

VI. REACTIVITY DATA

Stability:	Stable X Unstable ____
Conditions to avoid:	NA
Incompatibility:	Strong oxidizing materials
Hazardous decomposition products:	Thermal decomposition may yield carbon monoxide and/or carbon dioxide.
Hazardous polymerization:	May occur ____ Will not occur X

VII. SPILL OR LEAK PROCEDURES

Spill Response Procedures

Absorb small quantities with sand, earth, sawdust. Large quantities pump into tank.

Waste Disposal Method

Incinerate liquid, bury saturated absorbent in land fill. Dispose of in accordance with local, state and federal regulations.

VIII. SPECIAL HANDLING INFORMATION

Ventilation Requirements:	Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or build-up of explosive concentrations of vapor in air. No smoking, or use of lame or other ignition sources.
Respiratory Protection:	Use air respiratory protection in confined or enclose spaces, if needed.
Protective Gloves:	Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.
Eye Protection:	Use splash goggles or face shield when eye contact may occur.

IX. SPECIAL PRECAUTIONS

Keep from open flame. Do not take internally. Avoid excessive inhalation of vapors. Keep from children.

X. REGULATORY INFORMATION

All ingredients for this product are listed on the TSCA Inventory.

SARA Title III chemicals:	None
California Prop 65 chemicals:	None
CERCLA reportable quantity:	None
RCRA hazardous waste no.:	None

SIGNATURE: Peter Fougner TITLE: Director of Global Quality Assurance

REVISION DATE: January 2005 SUPERSEDES: June 2003

NA = Not applicable NDA = No data available < = Less than > = More than

We believe the statements, technical information and recommendations contained herein are reliable. However, the data is provided without warranty, expressed or implied. It is the user's responsibility both to determine safe conditions for use of this product and assume loss, damage or expense, direct or consequential, arising from its use. Before using product, read label.

011243

Material Safety Data Sheet

ECOLAB

ACCENT PLUS AMINO LOTION

Section 1. Chemical product and company identification

Trade name : ACCENT PLUS AMINO LOTION
Product use : Skin Care
Supplier : Ecolab Inc. Healthcare Division
370 N. Wabasha St.
St. Paul, MN 55102
1-800-332-6522
Code : 920827-07
Date of issue : **21-July-2005**

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
Outside United States and Canada CALL 1-651-222-5352 (in USA)

Section 2. Composition, Information on Ingredients

Name	CAS number	% by weight
octadecanoic acid, 2-hydroxyethyl ester	111-60-4	1 - 5
hexadecanoic acid	57-10-3	1 - 5
stearic acid	57-11-4	1 - 5

Section 3. Hazards identification

Physical state : Liquid. (Liquid.)
Emergency overview : CAUTION!

MAY CAUSE EYE IRRITATION.
Avoid contact with eyes.

Potential acute health effects

Eyes : Slightly irritating to the eyes.
Skin : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.
See toxicological Information (section 11)

Section 4. First aid measures

Eye contact : In case of contact, immediately flush eyes with plenty of water. Remove contact lenses and flush again. Get medical attention if irritation occurs.
Skin contact : Flush contaminated skin with plenty of water. Wash clothing before reuse.
Inhalation : If inhaled, remove to fresh air.
Ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Section 5. Fire fighting measures

Flash point : > 100°C
Fire fighting media and instructions : Use an extinguishing agent suitable for surrounding fires.

Dike area of fire to prevent product run-off.
No specific hazard.

Special protective equipment for fire-fighters : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

011244

Section 6. Accidental release measures

Personal precautions : Ventilate area of leak or spill. Do not touch damaged containers or spilled material unless wearing appropriate protective equipment (Section 8). Stop leak if without risk. Prevent entry into sewers, water courses, basements or confined areas.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.--

Section 7. Handling and storage

Handling : Avoid contact with eyes.

Storage : Keep out of the reach of children. Keep container tightly closed. Keep container in a cool, well-ventilated area.
Store between -5 and 45°C

Section 8. Exposure Controls, Personal Protection

Engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.

Personal protection

Eyes : No protective equipment is needed under normal use conditions.

Hands : No protective equipment is needed under normal use conditions.

Skin : No protective equipment is needed under normal use conditions.

Respiratory : No protective equipment is needed under normal use conditions.

Consult local authorities for acceptable exposure limits.

Section 9. Physical and chemical properties

Physical state : Liquid. (Liquid.)

Color : White.

Odor : Fragrance like.

pH : 7 (100%)

Boiling/condensation point : >100 °C

Specific gravity : 0.982 (Water = 1)

Section 10. Stability and reactivity

Stability : The product is stable.

Section 11. Toxicological information

Potential acute health effects

Eyes : Slightly irritating to the eyes.

Skin : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Section 12. Ecological information

Products of degradation : These products are carbon oxides (CO, CO_2) and water.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Consult your local or regional authorities.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information
DOT Classification	Not regulated.	-	-	-	-

APPLIES ONLY DURING ROAD TRANSPORT
Any variation of the shipping description based on the packaging is not addressed.

Section 15. Regulatory information

HCS Classification : Not regulated.
U.S. Federal regulations : SARA 302/304/311/312 extremely hazardous substances: None.
SARA 302/304 emergency planning and notification: None.
TSCA 8(b) inventory : All materials are listed or exempt.
California prop. 65 : No products were found.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

Health	1
Fire hazard	0
Reactivity	0
Personal protection	--

Date of issue : **21-July-2005.**
Responsible name : **Regulatory Affairs**
Date of previous issue : **No Previous Validation.**

Notice to reader

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

SOLUTIONS DEPARTMENT
MSDS for ACETONE

1 - Site Specific Information

FLAMMABLE STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: ACETONE

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

- Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
ACETONE	100.0	67-64-1	ASHLAND CHEMICAL	3011051

4 - Section III - Personal Protective Equipment & Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP. OR FUMEHOOD	H	C	R	F
X	X	X	X	1	1	2	3

SPECIAL HAZARD RATING: HIGHLY FLAMMBLE

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

MATERIAL SAFETY DATA SHEET

Ashland

Date Prepared: 03/18/04
Date Printed: 08/18/04
MSDS No: 999.0004335-009.006

ACETONE 100%

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity
Product Name: ACETONE 100%
General or Generic ID: KETONE

Company
Ashland
Ashland Distribution Co. &
Ashland Specialty Chemical Co.
P. O. Box 2219
Columbus, OH 43216
614-790-3333

Emergency Telephone Number:
1-800-ASHLAND (1-800-274-5263)
24 hours everyday

Regulatory Information Number:
1-800-325-3751

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	% (by weight)
ACETONE	67-64-1	98.0-100.0

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3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye
Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin
May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns. Passage of this material into the body through the skin is possible, but it is unlikely that this would result in harmful effects during safe handling and use.

Continued on next page

Swallowing

Swallowing small amounts of this material during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful. This material can get into the lungs during swallowing or vomiting. This results in lung inflammation and other lung injury.

Inhalation

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

Symptoms of Exposure

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: mouth and throat irritation (soreness, dry or scratchy feeling, cough), stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, high blood sugar, coma.

Target Organ Effects

This material (or a component) shortens the time of onset or worsens the liver and kidney damage induced by other chemicals. Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals: mild, reversible liver effects, mild, reversible kidney effects, blood abnormalities.

Developmental Information

This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

Cancer Information

Based on the available information, this material cannot be classified with regard to carcinogenicity. This material is not listed as a carcinogen by the International Agency for Research on Cancer, the National Toxicology Program, or the Occupational Safety and Health Administration.

Continued on next page

Other Health Effects
No data

Primary Route(s) of Entry
Inhalation, Skin absorption, Skin contact, Eye contact, Ingestion.

---

4. FIRST AID MEASURES

Eyes
If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin
Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Swallowing
Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation
If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Note to Physicians
This material is an aspiration hazard. Potential danger from aspiration must be weighed against possible oral toxicity (See Section 3 - Swallowing) when deciding whether to induce vomiting. This material (or a component) has produced hyperglycemia and ketosis following substantial ingestion. Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material: skin, lung (for example, asthma-like conditions), blood-forming system.

Continued on next page

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5. FIRE FIGHTING MEASURES

Flash Point
-4.0 F (-20.0 C) TCC

Explosive Limit
(for product) Lower 2.6 Upper 12.8 %

Autoignition Temperature
869.0 F (465.0 C)

Hazardous Products of Combustion
May form: carbon dioxide and carbon monoxide.

Fire and Explosion Hazards
Material is highly volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

Extinguishing Media
alcohol foam, carbon dioxide, dry chemical.

Fire Fighting Instructions
Water may be ineffective. Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment. Refer to the personal protective equipment section of this MSDS.

NFPA Rating
Health - 1, Flammability - 3, Reactivity - 0

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6. ACCIDENTAL RELEASE MEASURES

Small Spill
Absorb liquid on vermiculite, floor absorbent or other absorbent material.

Continued on next page

Large Spill

Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. Pump or vacuum transfer spilled product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other materials to containers for disposal. Prevent run-off to sewers, streams or other bodies of water. If run-off occurs, notify proper authorities as required, that a spill has occurred.

---

7. HANDLING AND STORAGE

Handling

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed. All five-gallon pails and larger metal containers, including tank cars and tank trucks, should be grounded and/or bonded when material is transferred. Warning. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection

Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.

Continued on next page

Skin Protection
Wear resistant gloves (consult your safety equipment supplier). To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protections
If workplace exposure limit(s) of product or any component is exceeded (see exposure guidelines), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

Engineering Controls
Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Exposure Guidelines
Component

ACETONE (67-64-1)
OSHA PEL 1000.000 ppm - TWA
OSHA VPEL 750.000 ppm - TWA
OSHA VPEL 1000.000 ppm - STEL
ACGIH TLV 500.000 ppm - TWA
ACGIH TLV 750.000 ppm - STEL

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9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point
(for product) 133.0 F (56.1 C) @ 760 mmHg

Vapor Pressure
(for product) 185.000 mmHg @ 68.00 F

Continued on next page

Specific Vapor Density
2.000 @ AIR=1

Specific Gravity
.785 - .788 @ 77.00 F

Liquid Density
6.590 lbs/gal @ 68.00 F
.791 kg/l @ 20.00 C

Percent Volatiles
100.0 %

Volatile Organic Compounds (VOC)
.000 %
.000 g/l
.000 lbs/gal

Evaporation Rate
14.40 (N-BUTYL ACETATE)

Appearance
COLORLESS LIQUID

State
LIQUID

Physical Form
NEAT

Color
CLEAR, APHA COLOR 5 MAX

Odor
MILD/SWEET

pH
No data

Continued on next page

Viscosity
.3 cps

Freezing Point
-139.0 F (-95.0 C)

Molecular Weight
58.1

Solubility in Water
SOLUBLE

Bulk Density
.880 lbs/ft3

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10. STABILITY AND REACTIVITY

ardous Polymerization
Product will not undergo hazardous polymerization.

Hazardous Decomposition
May form: carbon dioxide and carbon monoxide.

Chemical Stability
Stable.

Incompatibility
Avoid contact with: acids, strong oxidizing agents.

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11. TOXICOLOGICAL INFORMATION

No data

Continued on next page

12. ECOLOGICAL INFORMATION

No data

13. DISPOSAL CONSIDERATION

Waste Management Information

Dispose of in accordance with all applicable local, state and federal regulations. For assistance with your waste management needs - including disposal, recycling and waste stream reduction, contact Ashland Distribution Company, IC&S Environmental Services Group at 800-637-7922.

14. TRANSPORT INFORMATION

1 Information - 49 CFR 172.101

DOT Description:
ACETONE,3,UN1090,II

Container/Mode:
55 GAL DRUM/TRUCK PACKAGE

NOS Component:
None

RQ (Reportable Quantity) - 49 CFR 172.101

Product Quantity (lbs)	Component
5000	ACETONE

Other Transportation Information

The Transport Information may vary with the container and mode of shipment.

15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (UNITED STATES) The intentional ingredients of this product are listed.

Continued on next page

CERCLA RQ - 40 CFR 302.4(a)

Component	RQ (lbs)
ACETONE	5000

SARA 302 Components - 40 CFR 355 Appendix A
None

Section 311/312 Hazard Class - 40 CFR 370.2
Immediate(X) Delayed(X) Fire(X) Reactive( ) Sudden Release of Pressure( )

SARA 313 Components - 40 CFR 372.65
None

OSHA Process Safety Management 29 CFR 1910
None listed

EPA Accidental Release Prevention 40 CFR 68
None listed

International Regulations
Inventory Status
AICS (AUSTRALIA) The intentional ingredients of this product are listed.
DSL (CANADA) The intentional ingredients of this product are listed.
ECL (SOUTH KOREA) The intentional ingredients of this product are listed.
EINECS (EUROPE) The intentional ingredients of this product are listed.
ENCS (JAPAN) The intentional ingredients of this product are listed.
IECSC (CHINA) The intentional ingredients of this product are listed.
PICCS (PHILIPPINES) The intentional ingredients of this product are listed.
SWISS (SWITZERLAND) The intentional ingredients of this product are listed.

Continued on next page

State and Local Regulations

California Proposition 65

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause cancer.
BENZENE
ACETALDEHYDE
FORMALDEHYDE (GAS)

The following statement is made in order to comply with the California Safe Drinking Water and Toxic Enforcement Act of 1986: This product contains the following substance(s) known to the state of California to cause reproductive harm.
BENZENE

New Jersey RTK Label Information

ACETONE	67-64-1

Pennsylvania RTK Label Information

2-PROPANONE	67-64-1

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16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND DISTRIBUTOR'S INFORMATION

NFPA Rating: Health-2; Flammability-2; Reactivity-0; Special-0

HMIS Rating: Health-2; Flammability-2; Reactivity-0; Personal Protection-B

Manufactured For: **UNISOURCE WORLDWIDE, INC.**
Address: 6600 Governors Lake Pkwy.
Norcross, GA 30071

DOT Hazard Classification: ORM-D
Identity (trade name as used on label):
ALLSTAR SATIN (U17530)

Phone: **800-UNISOURCE**

MSDS Number: A00141 Revision- 13

EMERGENCY RESPONSE NUMBER: 1-888-660-6737
NOTICE: JUDGMENT BASED ON INDIRECT TEST DATA

Date Prepared: 06/12/03 Prepared By: LF/IB
Information Calls: (770)422-2071

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	SARA III LIST	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
PETROLEUM DISTILLATE	64742-54-5	Yes	5mg\M3	5mg\M3	d
PETROLEUM DISTILLATE	8052-41-3	No	100	100	d
ISOBUTANE / PROPANE BLEND	75-28-5	No	800	800	d
	74-98-6	No	1000	1000	d

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: N/A

Specific Gravity (H2O=1): Concentrate Only = .856

Vapor Pressure: PSIG @ 70°F (Aerosols): Max.60

Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): N/A

Vapor Density (Air = 1): N/E

Evaporation Rate (= 1): N/E

Solubility in Water: Insoluble

Water Reactive: No

Appearance and Odor: Clear liquid, lemon fragrance.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) **FLAMMABLE** >18 Inches

Auto Ignition Temperature N/E

Flammability Limits in Air by % in Volume: % LEL: N/E % UEL: N/E

FLASH POINT AND METHOD USED (non-aerosols): N/A

SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus.

EXTINGUISHER MEDIA: Foam, dry chemical, carbon dioxide.

Unusual Fire & Explosion Hazards: Do not expose aerosols to temperatures above 130°F or the container may rupture.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY [X] STABLE [ ] UNSTABLE

HAZARDOUS POLYMERIZATION [ ] WILL [X] WILL NOT OCCUR

Incompatibility (Mat. to avoid): Strong oxidizers.

Conditions to Avoid: Open flame, welding arcs, heat, sparks.

Hazardous Decomposition Products: CO, CO2.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: [X] INHALATION [ ] INGESTION [X] SKIN ABSORPTION [ ] EYE [ ] NOT HAZARDOUS

ACUTE EFFECTS

Inhalation: Excessive inhalation of vapors can be harmful and may cause headache, dizziness, asphyxia, anesthetic effects and possible unconsciousness.

Eye Contact: Mild irritation.

Skin Contact: Mild irritation due to defatting of the skin.

Ingestion: Possible chemical pneumonitis if aspirated into lungs. Nausea.

CHRONIC EFFECTS: (Effects due to excessive exposure to the raw materials of this mixture) May cause cardiac abnormality, liver abnormalities, lung and kidney damage.

Medical Conditions Generally Aggravated by Exposure: May aggravate existing eye, skin, or upper respiratory conditions.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush with water for 15 minutes. If irritated, seek medical attention.

Skin Contact: Wash with soap and water. If irritated, seek medical attention.

Inhalation: Remove to fresh air. Resuscitate if necessary. Get medical attention.

Ingestion: DO NOT INDUCE VOMITING. Drink two large glasses of water. Get immediate medical attention.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): If vapor concentration exceeds TLV, use respirator approved by NIOSH for organic vapor.

Protective Gloves: Polyethylene gloves

Eye Protection: Safety glasses recommended.

Ventilation Requirements: Adequate ventilation to keep vapor concentration below TLV.

Other Protective Clothing & Equipment: Eyewash station if desired.

Hygienic Work Practices: Wash with soap and water before handling food. Remove contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Absorb with suitable medium. Incinerate or landfill according to local, state or Federal regulations. DO NOT FLUSH TO SEWER.

Waste Disposal Methods: Aerosol cans when vented to atmospheric pressure through normal use, pose no disposal hazard.

Precautions To Be Taken In Handling & Storage: Do not puncture or incinerate containers. Do not store at temperatures above 130°F.

Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN. Avoid food contamination. Avoid breathing vapors.Remove ignition sources.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data

MATERIAL SAFETY DATA SHEET

DATE PREPARED: 11/27/2000

MSDS No: 5718

ORTHO® ANT-STOP® Ant Killer Bait2

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: ORTHO® ANT-STOP® Ant Killer Bait2
PRODUCT DESCRIPTION: Insecticide

MANUFACTURER

The ORTHO Group
P.O. Box 1749
Columbus, OH 43216

24 HR. EMERGENCY TELEPHONE NUMBERS

Emergency Phone: 1-800-225-2883

EPA REG. NO.: 506-137-239B **PN:** 6029

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS#
Propoxur, 2-(1-Methylethoxy) Phenyl Methylcarbamate	< 0.3	114-26-1
Other Ingredients	99.75	

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

PHYSICAL APPEARANCE: Brown or yellow paste inside protective canister

IMMEDIATE CONCERNS:
- HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH THE SKIN
- CAUSES MODERATE EYE IRRITATION
- AVOID CONTACT WITH EYES, SKIN, OR CLOTHING
- KEEP OUT OF REACH OF CHILDREN

POTENTIAL HEALTH EFFECTS

EYES: This substance is not expected to cause prolonged or significant eye irritation.

SKIN: This substance is not expected to cause prolonged or significant skin irritation.

INGESTION: The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if swallowed. Read the Toxicology Information section (11) of this document for more information.

INHALATION: The systemic toxicity of the concentrated product has not been determined. However, the diluted product is considered practically non-toxic to internal organs if inhaled. Read the Toxicological Information section (11) of this document for more information.

4. FIRST AID MEASURES

EYES: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

SKIN: If on skin or clothing, take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION: If swallowed, call a poison control center or doctor immediately for treatment advice. Have person sip glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Never give anything by mouth to an unconscious person.

INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN: In severe poisoning, measurement of blood cholinesterase activity may be used in monitoring exposure, but may not be reliable detectors of carbamate poisoning because enzyme activities may revert to normal withing minutes or hours of exposure. If signs and/or symptoms of cholinesterase inhibition appear, atropine sulfate is antidotal.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: CO2, dry chemical, foam and water fog.

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

FIRE FIGHTING PROCEDURES: Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Keep containers cool with a water spray. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse. Read the entire document.

011261

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Sweep up spills. Use good housekeeping practices. Avoid contact with clothing, skin, and eyes. Wash hands after handling.

LARGE SPILL: Clean up spills immediately, observing precautions in Exposure Controls/ Personal Protection section. Vacuum with machines equipped with high efficiency filters or sweep up material and place in a disposable container. Dispose of in accordance with instructions in Section 13. "DISPOSAL".

7. HANDLING AND STORAGE

GENERAL PROCEDURES: Store in original container in a cool, dry place, preferably locked, inaccessible to children and pets. Place in areas inaccessable to children and domestic animals. Do not contaminate feed, food products, food preparation surfaces, dishes, kitchen utensils, or food containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: No special ventilation is necessary.

PERSONAL PROTECTION

EYES AND FACE: No special eye protection is usually necessary.

SKIN: No special skin protection is necessary.

RESPIRATORY: No special respiratory protection is normally required.

OSHA HAZARDOUS COMPONENTS (29 CFR 1910.1200):

	EXPOSURE LIMITS		
Chemical Name	**OSHA PEL**	**ACGIH TLV**	**ACGIH STEL**
2-(1-Methylethoxy) Phenyl Methylcarbamate	None	0.5 mg/m3	None

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Brown or yellow paste inside a protective canister

PERCENT VOLATILE: 0

011262

MELTING POINT: 30°F

SOLUBILITY IN WATER: Insoluble

EVAPORATION RATE: 0

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10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID: Avoid contact with heat.

HAZARDOUS DECOMPOSITION: Thermal decomposition products may include normal combustion forms of carbon dioxide and water vapor; incomplete combustion can produce carbon monoxide.

INCOMPATIBLE MATERIALS: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

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11. TOXICOLOGICAL INFORMATION

ACUTE

EYES: No product toxicology data available. The hazard evaluation found in section 3, was based on data from similar materials.

DERMAL LD_{50}: No product toxicology data available. The hazard evaluation found in section 3, was based on data from similar materials.

ORAL LD_{50}: No product toxicology data available. The hazard evaluation found in section 3, was based on data from similar materials.

INHALATION LC_{50}: No product toxicology data available. The hazard evaluation found in section 3, was based on data from similar materials.

GENERAL COMMENTS: This product contains a carbamate insecticide which inhibits the enzyme cholinesterase. Signs and symptoms which may be seen, usually within 1-2 hours following overexposure, may include, but may not be limited to, headache, constriction of the pupil of the eye, blurred vision, excessive salivation or nasal discharge, profuse sweating, abdominal cramps, nausea, vomiting and diarrhea. Convulsions are rarely seen in carbamate poisoning. Note to Physician: In severe poisoning, measurement of blood cholinesterase activity may be used in monitoring exposure, but may not be reliable detectors of carbamate poisoning because enzyme activities may revert to normal within minutes or hours of exposure. If signs of cholinesterase

inhibition appear, atropine sulfate is antidotal.

.2. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This material is toxic to birds and other wildlife. This material is toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Partially filled container may be disposed of by securely wrapping original container in several layers of newspaper and discard in trash. Do not reuse empty container.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

PROPER SHIPPING NAME: Not Regulated

PRIMARY HAZARD CLASS/DIVISION: None

UN/NA NUMBER: NONE

PACKING GROUP: NO

U.S. SURFACE FREIGHT CLASS: Insecticides, Fungicides, Insect or animal repellents or vermin exterminators, NOI, Other than poison

AIR (ICAO/IATA)

PROPER SHIPPING NAME: Not Regulated

SPECIAL SHIPPING NOTES: The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

PRODUCT CLASSIFICATION UNDER SECTION 311 OF SARA				
ACUTE: YES	CHRONIC: NO	FIRE: NO	REACTIVITY: NO	PRESSURE GENERATING: NO

16. OTHER INFORMATION

HMIS CODES

FIRE: 0 **HEALTH:** 1 **REACTIVITY:** 0 **PROTECTION:** -

NFPA CODES

FIRE: 0 **HEALTH:** 1 **REACTIVITY:** 0 **SPECIAL:** -

APPROVAL DATE: 11/27/2000

REVISION SUMMARY New MSDS

MANUFACTURER DISCLAIMER: The information contained herein is, to the best of the Manufacturer's (see Section 1) knowledge and belief, accurate and reliable as of the date of preparation of this document. However, no warranty or guarantee, express or implied, is made as to the accuracy or reliability, and the Manufacturer shall not be liable for any loss or damage arising out of the use thereof. No authorization is given or implied to use any patented invention without a license. In addition, the Manufacturer shall not be liable for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices or from any hazards inherent in the nature of the product.

011265

Material Safety Data Sheet

ECOLAB

BACTI-STAT

Section 1. Chemical product and company identification

Trade name : BACTI-STAT

Product use : Skin antiseptic

Supplier : Ecolab Inc. Healthcare Division
370 N. Wabasha St.
St. Paul, MN 55102
1-800-332-6522

Code : 920883

Date of issue : **02-March-2005**

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
Outside United States and Canada CALL 1-651-222-5352

Section 2. Composition, Information on Ingredients

Name	CAS number	% by weight
Ethanol	64-17-5	5 - 20
glycerin	56-81-5	5 - 20
1-propanaminium, 3,3',3"-[phosphinylidynetris(oxy)]tris[n-(3-aminopropyl) -2-hydroxy-n,n-dimethyl-, n,n',n"-tri-c6-18 acyl derivs. trichlorides	83682-78-4	1 - 5
acetic acid, (ethylenedinitrilo)tetra-, tetrasodium salt	64-02-8	1 - 5
fatty acids, coco, potassium salts	61789-30-8	5 - 20
octadecanoic acid, potassium salt	593-29-3	1 - 5

Section 3. Hazards identification

Physical state : Liquid. (Liquid.)

Emergency overview : CAUTION

MAY CAUSE RESPIRATORY TRACT IRRITATION.
COMBUSTIBLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FIRE.
MAY CAUSE EYE IRRITATION.

Avoid contact with eyes. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation.

Potential acute health effects

Eyes : Slightly irritating to the eyes.

Skin : No known significant effects or critical hazards.

Inhalation : Moderately irritating to the respiratory system.

Ingestion : No known significant effects or critical hazards.

See toxicological Information (section 11)

Section 4. First aid measures

Eye contact : In case of contact, immediately flush eyes with plenty of water. Remove contact lenses and flush again. Get medical attention if irritation occurs.

Skin contact : Flush contaminated skin with plenty of water. Wash clothing before reuse.

Inhalation : If inhaled, remove to fresh air.

Ingestion : Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

Section 5. Fire fighting measures

Flash point : 43.3333 °C (Closed cup)

Fire fighting media and instructions : In case of fire, use water spray (fog), foam, dry chemicals, or CO_2.

Dike area of fire to prevent product run-off.

Combustible liquid and vapor. May burn, but does not ignite readily. Under high temperatures or under moderate heating might release vapor in sufficient quantities to produce hazardous atmospheres with air.

Special protective equipment for fire-fighters : Fire fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full facepiece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions : Ventilate area of leak or spill. Do not touch damaged containers or spilled material unless wearing appropriate protective equipment (Section 8). Stop leak if without risk. Prevent entry into sewers, water courses, basements or confined areas.

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for cleaning up : If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal.--

Section 7. Handling and storage

Handling : Avoid contact with eyes. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Keep away from heat, sparks and flame. To avoid fire, minimize ignition sources. Wash thoroughly after handling.

Storage : Keep out of the reach of children. Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Store between 20 and 35°C

Section 8. Exposure Controls, Personal Protection

Engineering controls : Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.

Personal protection

Eyes : No protective equipment is needed under normal use conditions.

Hands : No protective equipment is needed under normal use conditions.

Skin : No protective equipment is needed under normal use conditions.

Respiratory : Avoid breathing vapor or mist.

Name	Exposure limits
Ethanol	**ACGIH TLV (United States, 5/2004). Notes: 1996 Adoption Refers to Appendix A -- Carcinogens.** TWA: 1880 mg/m^3 8 hour(s). Form: All forms TWA: 1000 ppm 8 hour(s). Form: All forms **OSHA PEL (United States, 6/1993).** TWA: 1900 mg/m^3 8 hour(s). Form: All forms TWA: 1000 ppm 8 hour(s). Form: All forms
glycerin	**ACGIH TLV (United States, 9/2004). Notes: Inhalable fraction. See Appendix C, paragraph A. Inhalable**

Particulate Mass TLVs (IPM–TLVs) for those materials that are hazardous when deposited anywhere in the respiratory tract.
TWA: 10 mg/m^3 8 hour(s). Form: Mist
OSHA PEL (United States, 6/1993).
TWA: 5 mg/m^3 8 hour(s). Form: Respirable fraction
TWA: 15 mg/m^3 8 hour(s). Form: Total dust

Section 9. Physical and chemical properties

Physical state : Liquid. (Liquid.)
Color : Red.
Odor : Fragrance like.
pH : 9.25 (100%)
Boiling/condensation point : >100 °C
Specific gravity : 1.02 (Water = 1)

Section 10. Stability and reactivity

Stability : The product is stable.

Section 11. Toxicological information

Potential acute health effects

Eyes : Slightly irritating to the eyes.
Skin : No known significant effects or critical hazards.
Inhalation : Moderately irritating to the respiratory system.
Ingestion : No known significant effects or critical hazards.
Chronic effects on humans : Contains material which causes damage to the following organs: blood, kidneys, the reproductive system, liver, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Section 12. Ecological information

Products of degradation : These products are carbon oxides (CO, CO_2) and water, nitrogen oxides (NO, NO 2...). Some metallic oxides.

Section 13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.
Waste classification : Unused product is D001 (Ignitable)

Consult your local or regional authorities.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information
DOT Classification	Not regulated.	-	-	-	-

APPLIES ONLY DURING ROAD TRANSPORT

Any variation of the shipping description based on the packaging is not addressed.

Section 15. Regulatory information

HCS Classification	:	Combustible liquid Irritating material Target organ effects
U.S. Federal regulations	:	SARA 302/304/311/312 extremely hazardous substances: None. SARA 302/304 emergency planning and notification: None.
TSCA 8(b) inventory	:	All materials are listed or exempt.
California prop. 65	:	No products were found.

Section 16. Other information

Hazardous Material Information System (U.S.A.) :

Health *	1
Fire hazard	2
Reactivity	0
Personal protection	X

Date of issue : **02-March-2005.**

Responsible name : **Regulatory Affairs**

Date of previous issue : **No Previous Validation.**

Notice to reader

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

SOLUTIONS DEPARTMENT
MSDS for BLEACH-10%

1 - Site Specific Information

GENERAL STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: 10% BLEACH, SODIUM HYPOCHLORITE

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#
SODIUM HYPOCHLORITE	10.0	7681-52-9
H2O	90.0	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X			1	1	1	0

SPECIAL HAZARD RATING: DECOMPOSITION PRODUCTS-HYDROGEN CHLORIDE GAS,CHLORINE, SODIUM/SODIUM OXIDES

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 MONTHS

WAXIE SANITARY SUPPLY

Material Safety Data Sheet

Section 1. Chemical Product and Company Identification

Product Name/Trade Name	**Regular Bleach 090101**
Manufacturer:	Waxie Sanitary Supplies 9353 Waxie Way San Diego, CA 92123-1036
Contact Number:	Tel: 800-995-4466
Prepared By:	WAXIE Sanitary Supplies
Replaces Date:	April 28, 2004
Date Last Revised:	June 7, 2004

Section 2. Hazardous Ingredients

Name	%	CAS#	LD50/LC50
Sodium Hypochlorite	5.25 – 5.50	7681-52-9	5800 mg/kg / >10500 mg/m^3 (1hr)

Section 3. Physical Data

State	Liquid	**PH**	12.6 maximum
Appearance	Clear Colorless	**% Volatile**	93% Approx.
Odor	Chlorine/	**Boiling Point**	100°C
Specific Gravity	1.080 min	**Vapor Pressure**	N Av
Solubility	100%		

Section 4. Fire & Explosion

Flammable: YES NO X

Means of Extinction: Water, Carbon Dioxide, Dry Chemical or Foam

Special Procedures: Fire fighters should wear self-contained breathing apparatus.

Flash Point: & Method: Not Applicable

Hazardous Combustion Products: Chlorine Gas.

Section 5. Reactivity Data

Chemical Stability: YES X NO

Conditions: Temperature above 40 °C, sunlight and metals,
Incompatibility: YES X NO

What Substances? Acids, ammonia, urea, metals & oxidizers.

Reactivity / Conditions: Not Applicable

Hazardous Decomposition Products: Chlorine gas released by contact with acids. Contact with ammonia or urea produces nitrogen gas and chloramines. Oxygen is released on contact with metals.

Regular Bleach

Section 6. Toxicological Properties

Route of Entry

Skin Contact	X	Skin Absorption	Eye Contact	X
Inhalation Acute	X	Inhalation Chronic	Ingestion	X

Effects of Acute Exposure: Inhalation of vapors will irritate breathing passages and may cause breathing difficulty. CORROSIVE will cause sever irritation to eyes and skin. May cause permanent damage if not treated properly. Ingestion can cause corrosion of mucous membranes, severe esophageal burns and perforation of esophagus or stomach.

Effects of chronic exposure: Not Known.

Carcinogenicity Reproductive Effects: Teratogenicity Mutagenicity: Effects not known.

Section 7. Preventative Measures

Protective Equipment

Gloves: Impervious PVC or Neoprene. Eyes: Chemical splash goggles. Face shield also helpful.

Respiratory: Not normally required. Footwear: Protect shoes and feet when using product for floor cleaning.

LEAK AND SPILL PROTECTION: Small spills: Dilute product by flooding area with large quantity of water and flush to sanitary sewer. Large spills: Contain run-off by diking with suitable material. Soak up liquid on inert absorbent and transfer to approved container. Prevent spill from entering sewers or waterways

WASTE DISPOSAL: Reclaim or dispose in accordance with local regulations.

STORAGE REQUIREMENTS: Store in a cool, dry and well-ventilated area.

Section 8. First Aid Measures

Skin: Wash with soap and water

Eyes: Flush eyes with cool running water holding eyelids apart to ensure thorough rinsing for 15 minutes. Remove contact lenses. See a doctor immediately.

Inhalation: Move to fresh air and restore breathing, if required.

Ingestion: DO NOT INDUCE VOMITING! Drink large amounts of water or milk. Do not give anything by mouth to a convulsing or unconscious person. See a doctor immediately.

General Advice: If irritation occurs, see a doctor immediately.

Section 9. Regulatory Information

WHIMS:

Health:	2
Flammability:	0
Reactivity:	2

DOT: Not Regulated

As the handling and use of products under user's conditions are beyond our control, no warranty, expressed or implied, is made concerning this product. The information contained herein is offered only as a guide to the handling of this specific material and is not intended to be all-inclusive in the manner and conditions of use and handling. The user assumes all risks of use or handling, whether or not in accordance with any directions or suggestions of the manufacturer. Manufacturer shall not be liable to purchaser or any other person for loss or damages directly or indirectly arising from the use of our product.

BUTCHER'S

MATERIAL SAFETY DATA SHEET

SPEEDBALL Original
Fragrance Power Cleaner

MSDS Ref. No: 4043
Date Prepared: 06/25/2003
Date Revised: 07/15/2003

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME/USE: SPEEDBALL Original Fragrance Power Cleaner

MSDS CODE: 3138611
PRODUCT CODE: 4043320, 4043110, 4043520, 4043550

MANUFACTURER
The Butcher Company
8310 16th St.
Sturtevant, WI 53177-0902

Butcher Telephone Number:	800-225-9475
Emergency Telephone (24 hours):	800-228-5635
CHEMTREC (U.S./Can.):	800-424-9300
CHEMTREC (Int'l):	+1 703-527-3887

2. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT(S)	CAS#	% BY WEIGHT
2-Butoxyethanol	111-76-2	5 - 7
Ethanolamine	141-43-5	1 - 3
Nonyl phenol ethoxylate	9016-45-9	1 - 1.5

See Section 8 for Exposure Limits *NA - Not Applicable*

OSHA REGULATORY STATUS: This product is classified as hazardous under OSHA regulations.

WHMIS CLASS: Class D- Division 2B

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Clear, Green Liquid . Mint Odor. Causes Eye Irritation.

POTENTIAL HEALTH EFFECTS *(See Section 11 for Toxicological Information)*

PRIMARY ROUTE(s) OF EXPOSURE: X Eye X Skin Contact X Skin Absorption X Inhalation X Ingestion

EFFECTS OF ACUTE EXPOSURE

EYES: Causes eye irritation. Symptoms may include redness and pain.

SKIN: May cause mild skin irritation. Symptoms may include redness.

INHALATION: High concentrations of vapor or mist may cause nose, throat and respiratory tract irritation. Symptoms may include coughing.

INGESTION: May cause mouth, throat and stomach irritation. Symptoms may include nausea, vomiting and diarrhea. May also cause central nervous system effects including headache, dizziness and weakness.

EFFECTS OF CHRONIC EXPOSURE: Prolonged or repeated contact may cause skin irritation.

MEDICAL CONDITIONS AGGRAVATED: May aggravate pre-existing eye, skin and respiratory conditions.

4. FIRST AID MEASURES

EYES: Flush eyes with plenty of water while holding eyelids apart. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Do not put any medication in the victim's eyes unless instructed by a physician. Get medical attention.

SKIN: Flush with water, then wash with soap and water. Remove saturated clothing. Get medical attention if irritation develops.

INHALATION: Remove to fresh air. If not breathing, give respiration; if breathing is difficult, give oxygen (by trained personnel only). Get medical attention if symptoms persist.

INGESTION: Do not induce vomiting. Drink large quantities of water. Get immediate medical attention. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

FLASH POINT AND METHOD: > 93°C (200°F)TCC

FLAMMABLE LIMITS: Not applicable.

AUTOIGNITION TEMPERATURE: Not applicable.

EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire.

HAZARDOUS COMBUSTION PRODUCTS: Normal products of combustion (carbon monoxide and carbon dioxide).

FIRE AND EXPLOSION HAZARDS: None known.

FIRE FIGHTING INSTRUCTIONS: This product is not flammable. As in any fire, MSHA/NIOSH approved self-contained breathing apparatus (SCBA) and full protective gear should be worn.

6. ACCIDENTAL RELEASE MEASURES

See Section 8, Exposure Controls/Personal Protection and Section 3, Hazard Identification. Floors may be slippery. Use care to avoid falling. Contain and isolate spill. Keep non-essential personnel from entering spill area. Use mop, absorbent, or wet vacuum to collect material for proper disposal. Rinse area with water.

7. HANDLING AND STORAGE

HANDLING: Follow label use directions. Do not mix with other chemicals unless instructed by label directions. Avoid contact with eyes and skin. Wash thoroughly after handling. Remove saturated clothing. Wash clothing and equipment before reuse.

STORAGE: Keep container closed when not in use. Store away from incompatible materials. (See Section 10, Stability and Reactivity).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE: Where eye contact is possible, wear safety glasses with side shields or chemical splash goggles (ANSI Z87.1 approved).

SKIN: Where prolonged or repeated contact is possible, chemical-resistant clothing (e.g., gloves) is recommended.

RESPIRATORY: No respiratory protection is required if ventilation is adequate.

ENGINEERING CONTROLS: Good general room ventilation is expected to be adequate. If user operations generate vapor or mist, ventilation should be used to keep airborne concentrations below exposure limits.

EXPOSURE LIMITS:

INGREDIENT(S)	OSHA PEL/STEL	ACGIH TLV/STEL
2-Butoxyethanol	25 ppm 120 mg/m3 / Skin	25 ppm 121 mg/m3 / Skin
Ethanolamine	3 ppm 8 mg/m3 / 6 ppm 15 mg/m3	3 ppm 7.5 mg/m3 / 6 ppm 15 mg/m3
Nonyl phenol ethoxylate	NA	NA

NA - Not Available

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid
ODOR: Mint
APPEARANCE: Clear, Green
pH: 11.9 to 12.7
PERCENT VOLATILE BY WEIGHT: 98
VAPOR PRESSURE: Not Available
VAPOR DENSITY: Not Available
BOILING POINT: Not Available
FREEZING/MELTING POINT: Not Available
SOLUBILITY IN WATER: Complete
EVAPORATION RATE: Not Available
SPECIFIC GRAVITY: 1.00
VISCOSITY: Water Thin
OCTANOL/WATER PARTITION COEFFICIENT: Not Available
ODOR THRESHOLD: Not Available

10. STABILITY AND REACTIVITY

STABILITY (CONDITIONS TO AVOID): Stable.

POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION: None known.

INCOMPATIBLE MATERIALS: Strong acids (e.g., hydrochloric) and oxidizers (e.g., bleach).

11. TOXICOLOGICAL INFORMATION

ACUTE DATA: This product is a moderate to severe eye irritant and a mild skin irritant. Based on acute toxicity testing, it is not considered to be toxic by inhalation, ingestion, or skin absorption. Acute overexposure to high concentrations of 2-butoxyethanol by skin absorption, ingestion and inhalation has caused blood, liver and kidney effects in laboratory animals. The following additional data are available for this product and its ingredients:

PRODUCT/INGREDIENT	ORAL LD_{50} (rat)	DERMAL LD_{50} (rabbit)	INHALATION LC_{50} (rat)
SPEEDBALL Original Fragrance Power Cleaner	>5000 mg/kg	>1000 mg/kg	>200 mg/L (1-hr)
2-Butoxyethanol	470 - mg/kg	220 - mg/kg	450 - ppm (4-hr)
Ethanolamine	1720 - mg/kg	1018 - mg/kg	Not Available
Nonyl phenol ethoxylate	2000 - 5000 mg/kg	1000 - 3000 mg/kg	Not Available

SENSITIZATION DATA: No data available.

CHRONIC DATA:

Prolonged overexposure to high concentrations of ethanolamine by inhalation and ingestion has caused liver and kidney effects in laboratory animals. Prolonged overexposure to high concentrations of 2-butoxyethanol by skin absorption, ingestion and inhalation has caused blood, liver and kidney effects in laboratory animals.

REPRODUCTIVE/TERATOGENIC DATA: No data available.

CARCINOGENIC/MUTAGENIC DATA: Not listed as carcinogenic by NTP, IARC, or ACGIH or regulated as a carcinogen by OSHA.

SYNERGISTIC MATERIALS: No data available.

12. ECOLOGICAL INFORMATION

This product is made with all biodegradable detergents. No other data available.

13. DISPOSAL CONSIDERATIONS

Disposal of this material should be in accordance with local, state or provincial and federal regulations. The unused product, as manufactured, is a RCRA hazardous waste (Corrosive-D002) in accordance with 40 CFR 261. The product has not been evaluated by the Toxicity Characteristic Leachate Procedure (TCLP). According to RCRA, it is the responsibility of the waste generator to ensure proper disposal.

14. TRANSPORT INFORMATION

DOT/TDG HAZARDOUS MATERIAL DESCRIPTION: Not regulated

15. REGULATORY INFORMATION

Not meant to be all-inclusive---selected regulations represented.

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: Under 40 CFR 370.2, this product meets the following hazard categories: Immediate, Delayed.

313 REPORTABLE INGREDIENTS: 2-Butoxyethanol is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 under the chemical category Glycol Ethers.

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA REGULATORY: None of the ingredients in this product are reportable under CERCLA.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA STATUS: This product complies with all TSCA inventory requirements.

USDA (U.S. DEPARTMENT OF AGRICULTURE): This product is authorized for use in federally inspected meat and poultry plants.

MASSACHUSETTS, NEW JERSEY, PENNSYLVANIA RIGHT-TO-KNOW:

INGREDIENT(S)	CAS NO.	STATE LISTING
Water	7732-18-5	Not Listed
2-Butoxyethanol	111-76-2	MA, NJ, PA
Ethanolamine	141-43-5	MA, NJ, PA
Nonyl phenol ethoxylate	9016-45-9	Not Listed

NA - Not Applicable

CANADA

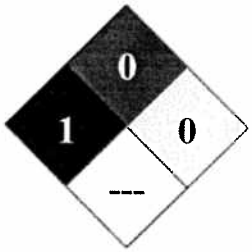
WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM): Class D-Division 2B, eye irritant; Class D-Division 2B, chronic toxic effects. This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

HMIS RATING

HEALTH	*	2
FLAMMABILITY		0
REACTIVITY		0
PERSONAL PROTECTION		-

NFPA CODES:



APPROVED BY: EH&S/Regulatory Affairs

MSDS STATUS

Revision No: 5

Revision #: 5

This MSDS replaces the June 25, 2003 MSDS. Any changes in information are as follows:
In Section 1
Product Code

APPROVAL DATE: 07/15/2003

The information on this data sheet represents our current data and best opinion as to the proper use in handling of the product under normal foreseeable conditions. Any use of this product which is not in conformance with this data sheet or product label, or which involves using the product in combination with any other product or any other process is the responsibility of the user.

Procter & Gamble
CPG TN 6
2 Procter & Gamble Plaza
Cincinnati, OH 45202

MATERIAL SAFETY DATA SHEET

Issue Date: 6/01
Supersedes: 2/1/00 Issue Date: N/A

SECTION I - CHEMICAL PRODUCT

Identity: **Disinfectant Powder Cleanser**

Brands: **COMET Disinfectant Cleanser with Chlorinol (Professional Line)**

Hazard Rating: 1

Health: 1		4=EXTREME
Flammability:		3=HIGH
Reactivity:		2= MODERATE
		1=SLIGHT

Emergency Telephone Number: - 1-800-332-7787 or call Local Poison Control Center

SECTION II - COMPOSITION AND INGREDIENTS

Ingredients/Chemical Name: Bleach, cleaning agents (calcium carbonate, sodium carbonate, anionic surfactants), quality control agents, perfume, color. Comet Disinfectant Cleanser with Chlorinol contains no phosphorus.

Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200.

Chemical Name	Common Name	CAS No.	Recommended Limits	Composition Range	LD50/LC50
Calcium carbonate	Limestone	1317-65-3	ACGIH TWA: 10mg/m^3 (total dust) / 5 mg/m^3 (respirable dust) OSHA PEL: 15 mg/m^3	60-100%	NA/NA
Silica, quartz	Quartz (naturally occurring component of limestone)	14808-60-7	ACGIH TWA: 0.1mg/m^3 (respirable dust) OSHA TWA: 0.1 mg/m^3	0.1-1%	9 g/kg/NA

SECTION III - HAZARDS IDENTIFICATION

Health Hazards (Acute and Chronic):

Ingestion: Mild mucous membrane irritant. May result in gastrointestinal irritation with nausea, vomiting and diarrhea.

Eye Contact: Mild eye irritant. Direct contact with eye may result in superficial, temporary irritation similar to those produced by other household detergents.

Skin: Mild skin irritant. Prolonged skin contact or direct contact with eye may result in superficial, temporary irritation similar to those produced by other household detergents.

Inhalation: Mild respiratory irritant. Unusually high exposures may cause coughing or irritation of nose and throat.

SECTION IV - FIRST AID INFORMATION

Emergency and First Aid Procedures:

Ingestion: Dilute with fluids and treat symptomatically.

Eye Contact: For accidental eye contact, flush thoroughly with water for 15 minutes.

Skin: Wash with soap and water and discontinue use.

Inhalation: For accidental, high level inhalation, remove to fresh air. Get medical attention if coughing persists.

Other: Product package has a caution statement: CAUTION: KEEP OUT OF REACH OF CHILDREN. May cause eye irritation. In case of eye contact, flush thoroughly with water. If irritation persists, see a physician. If swallowed, drink a glass of water to dilute. Do not mix with other products especially toilet bowl cleansers and products that contain ammonia.

SECTION V - FIRE FIGHTING INFORMATION

Flash Point (Method Used): N/A **Explosive Limits**: *LEL:* N/A *UEL*: N/A

Extinguishing Media: Use CO_2, water, or dry chemical.

Special Fire Fighting Procedures: None required.

Unusual Fire Hazards : None known.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: None

Environmental Precautions: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. Product contains biodegradable surfactant. If permitted, flush small quantities down sewer drain with large excess of water or dispose of at landfill.

Steps To Be Taken in Case Material is Released or Spilled: Vacuum to remove spill and place in trash container for disposal or flush with water. Do not dry sweep.

SECTION VII - HANDLING AND STORAGE

Precautions To Be Taken in Handling and Storing: Avoid moisture when storing to prevent loss of bleaching action and to prevent caking.

Other Precautions: None required.

SECTION VIII - EXPOSURE CONTROLS, PERSONAL PROTECTION

Respiratory Protection (Specify Type): None required with normal use. For bulk handling or other dusty conditions, use respiratory protection approved by NIOSH for dust.

Ventilation *Local Exhaust*: None required with normal use. *Special*: None

Mechanical (General): Acceptable. *Other*: None

Eye Protection: None required with normal consumer use.

Manufacturing: For splash protection, use chemical goggles.

Protective Gloves: None required with normal use.

Other Protective Equipment: None required with normal use.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point ° F: N/A
Vapor Pressure (mm Hg): N/A
Vapor Density (Air=1): N/A
Odor Threshold: N/A
Coefficient of Water/Oil Distribution: N/A
Scooped Density: N/A
Appearance and Odor: Green powder, cedar pine scent.
Specific Gravity (H_2O=1): ca. 1
Percent Volatile by Volume (%): ca. 1
Evaporation Rate (nBuOAc=1): N/A
Freezing Point: N/A
pH (1% solution): N/A
Solubility in Water: Moderately
Reserve Alkalinity: N/A

SECTION X - STABILITY AND REACTIVITY

Possible Hazardous Reactions/Conditions: None known

Conditions to Avoid: None

Materials to Avoid: Ammonia and acids

Hazardous Decomposition Products: Chlorine gas

Stability Stable

Hazardous Polymerization: Will not occur

Other Recommendations: None

SECTION XI - TOXICOLOGICAL INFORMATION

Calcium carbonate, an ingredient of this product, contains small amounts of crystalline silica (quartz) as a naturally occurring impurity. Prolonged, excessively high exposures to respirable crystalline silica may result in reduced lung function in some individuals. IARC has found sufficient evidence to classify crystalline silica as a carcinogen in animals, but there is limited evidence in humans.
LD50 (rats oral): 9 g/kg
ED50: 0.23 g/kg
Product as a whole:
CARCINOGENICITY: None known
SENSITIZATION EFFECTS: None known
REPRODUCTIVE EFFECTS: None known
SYNERGISTIC EFFECTS: None known

SECTION XII - ECOLOGICAL INFORMATION

No concerns

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: Product contains biodegradable surfactant. If permitted, flush small quantities down sewer drain with large excess of water or dispose of at landfill. DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

SECTION XIV - TRANSPORT INFORMATION

DOT Classification: Not regulated. Not DOT hazardous.

SECTION XV - ADDITIONAL REGULATORY INFORMATION

All components are listed on the US TSCA Inventory. No components are affected by Significant New Use Rules (SNURs) under TSCA §5.

This product is an EPA registered pesticide EPA Reg. No.# 3573-51

No components of Comet are subject to California Proposition 65.

All ingredients are CEPA approved for import to Canada by Procter & Gamble. This product has been classified with Hazard Criteria of the Canadian Control Products Regulation (CPR) and this MSDS contains all information required by the Canadian Products Regulation.

SECTION XVI - OTHER INFORMATION

*N/A. - Not Applicable *N/K. - Not Known

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific material designated herein, and does not relate to the use in combination with any other material or any other process. Procter & Gamble assumed no responsibility for injury to the recipient or third persons, for any damage to any property resulting from misuse of the controlled product.

Material Safety Data Sheet

"Dymel" 152a – CAS#75-37-6

("DYMEL" is a registered trademark of DuPont)

1. Chemical Product and Company Identification

Product Trade Name: "Dymel" 152a
Chemical Family: Ethane, 1,1-Difluoro
FSP Model No: DPS, DPSX, DPSR, DPSRX DPSXL, DPSXLX DSXLP\, DPSJB, DPSJC, DPSJBX, DPSMB, DPSMW,DPSJMB, DPSJMB2, DPSXL12, DSXLPW, DCPJB, FGS, FGSR, CDS, CDSR

Chemical Manufacturer: Dupont
Address: 1007 Market Street
Wilmington, DE 19898 USA
Phone: 1-800-441-7515
Product Manufacturer: Falcon Safety Products, Inc.
Address: 25 Chubb Way
Branchburg, NJ 08876
Phone: 1-908-707-4900

Emergency Telephone USA: CHEMTREC (800) 424-9300

2. Composition/Information on Ingredients

Chemical Name	Wt.%Range	TLV Units
1,1-Difluoroethane CAS #75-37-6	100%	

3. Hazard Identification

Potential Health Effects:

Inhalation of high concentrations of vapor is harmful and may cause heart irregularities, unconsciousness, or death. Intentional misuse or deliberate inhalation may cause death without warning. Vapor reduces oxygen available for breathing and is heavier than air. Liquid contact can cause frostbite.

Human Health Effects:

Contact with the liquid may cause frostbite. Overexposure by inhalation may include nonspecific discomfort, such as nausea, headache, or weakness; or temporary nervous system depression with anesthetic effects such as dizziness, headache, confusion, incoordination and loss of consciousness. Higher exposures (>20%) may cause temporary lung irritation effects with cough, discomfort, difficulty breathing, or shortness of breath; or temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation, abnormal kidney function as detected by laboratory tests. Overexposure may be fatal due to displacement of oxygen.

Medical Conditions Aggravated by Exposure:

Individual with preexisting diseases of the central nervous or cardiovascular system may have increased susceptibility to the toxicity of excessive exposures.

4. First Aid Measures

Inhalation: If high concentrations are inhaled, immediately remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Skin Contact: Promptly flush skin with water until all chemical is removed. If there is evidence of frostbite, bathe (do not rub) with lukewarm (not hot) water. If water is not available, cover with a clean, soft cloth or similar covering. Get medical attention if symptoms persist.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes (in case of frostbit water should be lukewarm, not hot) lifting eyelids occasionally to facilitate irrigation. Get medical attention if symptoms persist.

Ingestion: Ingestion is not considered a potential route of exposure.

Notes to Physicians:

Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should be used with special caution only in situations of emergency life support.

5. Firefighting Measures

Flash Point: <-50°C (<-58°F.
Autoignition Temperature: 454°C (849°F)
Flammable Limits in Air: LEL/UEL: 3.9-16.9 (% by volume)
Fire and Explosion Hazards: Aerosol cans may erupt with force at temperatures above 49° C (120° F)
Extinguishing Media: Water Spray, Water fog, Dry Chemical, Carbon dioxide. "Alcohol" foam.
Special Firefighting Procedures:
Cool cans with water spray. Keep can cool with water spray Self-contained breathing apparatus (SCBA) is required if containers rupture and contents are released under fire conditions.
National Fire Protection Association (NFPA 30B)
Level 1 Aerosols (lowest flammability rating)
Consumer Products Safety Commission
(CPSC 1500.3(c)(6).16CFR) - Not flammable

6. Accidental Release Measures

Spill or Leak: Although the chances of a large spill or leak is unlikely in aerosol containers, in the event of such an occurrence, evacuate area. Protected personnel should remove ignition sources and shut off fire sources. Provide ventilation.

7. Handling and Storage

Avoid breathing vapors or mist. Keep containers closed. Use only with adequate ventilation. Avoid repeated or prolonged contact with eyes, skin or clothing. Wash thoroughly after handling. Do not store in direct sunlight. Store in cool dry place, away from heat, sparks or flames which may generate toxic decomposition products. Vapors are heavy and may concentrate in low poorly ventilated areas.

8. Exposure Controls/Personal Protection

Respiratory Protection: Use only with adequate ventilation. Keep container closed. Use approved NIOSH self-contained or supplied air respirators for emergencies and in situations where air may be displaced by vapors.
Eye Protection: Use chemical protective safety glasses.
Protective Clothing: Where there is potential for skin contact, use appropriate impervious gloves, apron, pants and jacket.
Exposure Guidelines: Applicable Exposure Limits.

Difluoroethane:

PEL (OSHA)	None Established
TLV (ACGIH)	None Established
AEL (DuPont)	1000 ppm, 8 Hr. TWA
WEEL (AIHA)	1000 ppm, 8 Hr. TWA

NFPA, NPCA-HIMIS RATING:
Health
Flammability
Reactivity
Personal Protection rating to be supplied by user depending on use conditions.

9. Physical and Chemical Properties

Physical Form: Liquefied Gas
Odor: Slight Ethereal
Boiling Point: -25°C (-13°F)
pH: Not Applicable
Solubility in Water: 0.28 WT% @ 25°C (77°F) and 87 psia.
Specific Gravity: 0.909
% Volatile by Weight: 100
Vapor Pressure: 87 psia at 25°C (77°F)
Density: .90 g/cc at 25°C (77°F) - Liquid
Vapor Density (air=1): 2.4 (Air = 1.0) at 25°C (77°F)

10. Reactivity

Chemical Stability: Material is stable. However, avoid open flames and high temperatures.
Hazardous Polymerization: Will not occur.
Incompatibilities: Incompatible with alkali or alkaline earth metal.
Decomposition Products: Decomposition products are hazardous. This material can be decomposed by **high temperatures** forming hydrofluoric acid and possibly carbonyl fluoride

11. Toxicological Information

Carcinogenicity: The compound is untested for skin or eye irritation, and for animal sensitization. Effects in animals from single, high exposure by inhalation include labored breathing, lung irritation, lethargy, incoordination, and loss of consciousness. Cardiac sensitization occurred in dogs exposed to a concentration of 150,000 ppm in air and given an intravenous epinephrine challenge. Effects of repeated exposure include increased urinary fluorides, reduced kidney weight, and reversible kidney changes. The effects of a single, high oral dose include weight loss and lethargy. Tests in animals demonstrate no carcinogenic activity or developmental effects. Tests in animals for reproductive effects have not been performed. This compound does not produce genetic damage in bacterial cell cultures but has not been tested in animals.

12. Ecological Information

Aquatic Toxicity:
Not Available

13. Disposal Considerations

Waste Disposal: Reclaim by distillation, incinerate, or remove to a permitted waste facility. Comply with Federal, State, and local regulations.

This material may be a RCRA Hazardous waste upon disposal due to the ignitability characteristic.

14. Transportation Information

Transport for Aerosol Packaging:
Ground Transport: Consumer Commodity ORM-D Authorization: per DOT-E-11516.
Air Transport: (Difluoroethane), UN1030, Class 2.1 NOTE: Exemption copy required with shipping papers. Hazard Label: Flammable Gas
NOTE: *Falcon Safety Products has been granted a DOT exemption that allows this product to be shipped similar to a Consumer Commodity (ORM-D). A copy of the DOT exemption can be obtained by calling Falcon Safety Products, Inc at 908-707-4900.*

15. Regulatory Information

Section 313 Supplier Information:
This material contains the following toxic chemicals subject to the emergency reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40 CFR 372:

CAS#	Chemical Name	% by Weight
-	none	-

This information must be included in all MSDSs that are copied and distributed for this material.
California V.O.C. Data: This product contains 0 grams total VOC per liter.

Title III Hazard Communications Sections 311, 312

Acute	Yes
Chronic	No
Fire	Yes
Reactivity	No
Pressure	Yes

16. Other Information

NFPA, NPCA-HMIS

NPCA-HMIS Rating

Health :	1
Flammability :	4
Reactivity :	1

Personal Protection rating to be supplied by user depending on use

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Signature	Dermot McLeer Printed Name	Technical Manager Title	10/06/04 Revision Date

MATERIAL SAFETY DATA SHEET

This MSDS complies with OSHA'S Hazard Communication Standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND DISTRIBUTOR'S INFORMATION

NFPA Rating: Health-2; Flammability-0; Reactivity-0; Special-0

HMIS Rating: Health-2; Flammability-0; Reactivity-0; Personal Protection-B

Manufactured For: WAXIE Sanitary Supply
Address: 9353 Waxie Way
Address: San Diego, CA 92193-1036
Phone: 1-800-995-4466

DOT Hazard Classification: ORM-D
Identity (trade name as used on label):
Electro-Safe Safety Solvent Degreaser

MSDS Number: A00365 Revision- 14

EMERGENCY RESPONSE NUMBER: 1-800-225-3924
NOTICE: JUDGEMENT BASED ON INDIRECT TEST DATA

Date Prepared: 10/22/97 Prepared By: LF/DL
Information Calls: 858-292-8111

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS Number	SARA III LIST	OSHA PEL (ppm)	ACGIH TLV (ppm)	Carcinogen Ref. Source **
TRICHLOROETHYLENE	79-01-6	Yes	50	50	b
PERCHLOROETHYLENE	127-18-4	Yes	25	25	a,b
ACETONE	67-64-1	No	1000	750	d
CARBON DIOXIDE	124-38-9	No	5000	5000	d
WARNING: This product contains a chemical or chemicals known to the State of California to cause cancer.					

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: N/A
Specific Gravity (H2O=1): Concentrate Only = 1.60
Vapor Pressure: PSIG @ 70°F (Aerosols): 85-100
Vapor Pressure (Non-Aerosols)(mm Hg and Temperature): N/A
Vapor Density (Air = 1): N/E
Evaporation Rate (n-butyl acetate= 1): 2.1 (concentrate only)
Solubility in Water: Insoluble
Water Reactive: No
Appearance and Odor: Clear, colorless spray with chlorinated solvent odor.

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME PROJECTION TEST (aerosols) **NON-FLAMMABLE**

Auto Ignition Temperature N/E

Flammability Limits in Air by % in Volume: % LEL: N/E % UEL: N/E

FLASH POINT AND METHOD USED (non-aerosols): N/A
SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus.

EXTINGUISHER MEDIA: Foam, dry chemical, carbon dioxide.

Unusual Fire & Explosion Hazards: Do not expose aerosols to temperatures above 130°F or the container may rupture.

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY [X] STABLE [ ] UNSTABLE

HAZARDOUS POLYMERIZATION [ ] WILL [X] WILL NOT OCCUR

Incompatibility (Mat. to avoid): Reactive metals, aluminum, magnesium, strong oxidizing agents.

Conditions to Avoid: Open flame, welding arcs, heat.

Hazardous Decomposition Products: CO2, CO, HCl, small amounts of phosgene and chlorine.

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: [X] INHALATION [ ] INGESTION [X] SKIN ABSORPTION [ ] EYE [ ] NOT HAZARDOUS

ACUTE EFFECTS:

Inhalation: Excessive inhalation of vapors can be harmful and may cause headache, dizziness, asphyxia, anesthetic effects and possible unconsciousness.

Eye Contact: Irritation

Skin Contact: Irritation due to defatting of skin.

Ingestion: Possible chemical pneumonitis if aspirated into lungs. Nausea.

CHRONIC EFFECTS:(Effects due to excessive exposure to the raw materials of this mixture) May cause liver abnormalities, kidney, spleen, lung or brain damage, cardiac abnormalities. Perchloroethylene has been shown to increase the rate of spontaneously occurring malignant tumors in certain laboratory rats and mice.

Medical Conditions Generally Aggravated by Exposure: May aggravate existing eye, skin, or upper respiratory conditions.

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Flush with water for 15 minutes. If irritated, seek medical attention.

Skin Contact: Wash with soap and water. If irritated, seek medical attention.

Inhalation: Remove to fresh air. Resuscitate if necessary. Get medical attention.

Ingestion: DO NOT INDUCE VOMITING. Drink two large glasses of water. Get immediate medical attention.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): If vapor concentration exceeds TLV, use respirator approved by U.S. Bureau of Mines for organic vapor.

Protective Gloves: Neoprene gloves recommended.

Eye Protection: Safety glasses recommended.

Ventilation Requirements: Adequate ventilation to keep vapor concentration below TLV.

Other Protective Clothing & Equipment: None

Hygienic Work Practices: Wash with soap and water before handling food. Remove contaminated clothing.

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken If Material Is Spilled Or Released: Absorb with suitable medium. Incinerate or landfill according to local, state or Federal regulations. Allow to evaporate if small spill. DO NOT FLUSH TO SEWER.

Waste Disposal Methods: Aerosol cans when vented to atmospheric pressure through normal use, pose no disposal hazard.

Precautions To Be Taken In Handling & Storage: Do not puncture or incinerate containers. Do not store at temperatures above 130°F.

Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN. Avoid food contamination. Avoid inhalation of vapors.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

** Chemical Listed as Carcinogen or Potential Carcinogen. [a] NTP [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only

LOCTITE®

Material Safety Data Sheet

Henkel Technologies

Revision Date: 09/03/2004

Issue date: 09/03/2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: Loctite(R) Silicone Lubricant Food Grade
Product type: Lubricant
Company address:
Henkel Corporation
1001 Trout Brook Crossing
Rocky Hill, Connecticut 06067

Item No. : 81246
Region: United States
Contact Information:
Telephone: 860.571.5100
Emergency telephone: 860.571.5100
Internet: www.loctite.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components	%	ACGIH TLV	OSHA PEL	OTHER
Butane 106-97-8	10-30	1000 ppm TWA listed under aliphatic hydrocarbon gases alkane C1-C4	800 ppm TWA	None
Naphtha (petroleum), heavy alkylate 64741-65-7	5-10	100ppm TWA	100ppm (TWA)	None
Propane 74-98-6	5-10	1000 ppm TWA listed under aliphatic hydrocarbon gases alkane C1-C4	1000 ppm TWA 1800 mg/m³ TWA	None
White mineral oil (petroleum) 8042-47-5	1-5	5mg/m³ TWA (mist:) 10mg/m³ STEL (mist)	5mg/m³ TWA (mist:)	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Aerosol
Color: Clear
Odor: Petroleum

HMIS:

HEALTH:	2
FLAMMABILITY:	4
PHYSICAL HAZARD:	0
Personal Protection:	See Section 8

DANGER: EXTREMELY FLAMMABLE.
CONTENTS UNDER PRESSURE.
MAY CAUSE EYE AND RESPIRATORY IRRITATION.

Relevant routes of exposure: Skin, inhalation, eyes

Potential Health Effects

Inhalation: Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists. Extreme overexposure may result in unconsciousness and possibly death.
Skin contact: May cause skin irritation. Redness.
Eye contact: May cause irritation.
Ingestion: Not a relevant route of exposure.

Existing conditions aggravated by exposure: None generally recognized.

See Section 11 for additional toxicological information.

4. FIRST AID MEASURES

Inhalation: Remove to fresh air. If symptoms develop and persist, get medical attention.

Skin contact: Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms develop and persist.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion: Do not induce vomiting. Obtain medical attention.

5. FIRE-FIGHTING MEASURES

Flash point: Less than 0°C (17.7°F) (Propellant)
Flashback: This product exhibits no flashback when tested for flame extension.
Flame Projection: 47.52 inches (18 cm)

Autoignition temperature: Not available

Flammable/Explosive limits-lower %: 1.0

Flammable/Explosive limits-upper %: 9.5

Extinguishing media: Carbon dioxide (CO2). Dry chemical. Foam.

Special fire fighting procedures: Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA). Water spray may be ineffective. If water is used, fog nozzles are preferable. Water should be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Unusual fire or explosion hazards: Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.

Hazardous combustion products: Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Environmental precautions: Remove sources of ignition. Ventilate area.

Clean-up methods: Soak up with inert absorbent. Store in a closed container until ready for disposal.

7. HANDLING AND STORAGE

Handling: Keep away from heat, spark and flame. Vapors will accumulate readily and may ignite explosively. During use and until all vapors are gone: Keep area ventilated - do not smoke; extinguish all flames, pilot lights, and heaters; turn off stoves, electrical tools and appliances, and any other sources of ignition.

Storage: Do not puncture, incinerate, or expose to temperatures above 48.9 °C (120 °F). Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst.

Incompatible products: Not available

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: Use local ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.

Respiratory protection: If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH for protection against materials in Section 2.

Skin protection: None required in normal use. Chemical resistant, impermeable gloves.

Eye/face protection: Safety goggles or safety glasses with side shields.

See Section 2 for exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Aerosol
Color:	Clear
Odor:	Petroleum
Vapor pressure:	Not available
pH:	Not applicable
Boiling point/range:	<-18-211°C (<0-211°F)
Melting point/range:	Not available
Specific gravity:	0.81
Vapor density:	Not available
Evaporation rate:	Not available
Solubility in water:	Not available
Partition coefficient (n-octanol/water):	Not available
VOC content:	<34% (minus exempt solvents and water). (calculated)

10. STABILITY AND REACTIVITY

Stability: Stable.

Hazardous polymerization: Will not occur.

Hazardous decomposition products: Oxides of carbon.

Incompatability: None known.

Conditions to avoid: None known.

11. TOXICOLOGICAL INFORMATION

Carcinogen Status

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Butane 106-97-8	No	No	No
Naphtha (petroleum), heavy alkylate 64741-65-7	No	No	No
Propane 74-98-6	No	No	No
White mineral oil (petroleum) 8042-47-5	No	No	No

Literature Referenced Target Organ & Other Health Effects

Hazardous components	Health Effects/Target Organs
Butane 106-97-8	Cardiac, Central nervous system, Irritant
Naphtha (petroleum), heavy alkylate 64741-65-7	Irritant
Propane 74-98-6	Cardiac, Central nervous system, Irritant
White mineral oil (petroleum) 8042-47-5	Irritant

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Depressurize cans. Do not incinerate. Dispose of in accordance with Federal, State and local regulations.

EPA hazardous waste number: Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR):

Proper shipping name:	Aerosols, flammable
Hazard class or division:	2.1
Identification number:	UN 1950
Packing group:	None
Exceptions:	(Not more than 1 Liter) Consumer Commodity ORM-D
Marine pollutant:	None

International Air Transportation (ICAO/IATA):

Proper shipping name:	Aerosols, flammable
Hazard class or division:	2.1
Identification number:	UN 1950
Packing group:	None
Exceptions:	(Not more than 500mL) ID8000

WaterTransportation (IMO/IMDG):

Proper shipping name:	Aerosols, flammable
Hazard class or division:	2.1
Identification number:	UN 1950
Packing group:	None
Exceptions:	Limited quantity (Not more than 1 L)
Marine pollutant:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification: None.

CERCLA/SARA Section 302 EHS: None.
CERCLA/SARA Section 311/312: Immediate Health Hazard, Delayed Health Hazard, Fire
CERCLA/SARA 313: None.

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDSL Status: All other components are listed on or are exempt from listing on the Domestic Substances List.
WHMIS hazard class: A, B.5, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: Revised to new format.

Prepared by: C.J. Michaels, Senior Health & Regulatory Affairs Specialist

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S00210
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MATERIAL SAFETY DATA SHEET

Section 1 -- PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

S00210

HMIS CODES

Health	2*
Flammability	4
Reactivity	0

PRODUCT NAME
SPRAYON* Food Grade Silicone Lube

MANUFACTURER'S NAME
THE SHERWIN-WILLIAMS COMPANY
Consumer Group - Industrial
Cleveland, OH 44115

EMERGENCY TELEPHONE NO.
(216) 566-2917

DATE OF PREPARATION
03-NOV-05

INFORMATION TELEPHONE NO.
(800) 251-2486

Section 2 -- COMPOSITION/INFORMATION ON INGREDIENTS

% by WT	CAS No.	INGREDIENT			UNITS	VAPOR PRESSURE
15	74-98-6	Propane				
			ACGIH TLV	2500	ppm	760 mm
			OSHA PEL	1000	ppm	
46	110-54-3	Hexane				
			ACGIH TLV	50	ppm	127 mm
			OSHA PEL	50	ppm	
32	107-83-5	Isohexane Isomers				
			ACGIH TLV	500	ppm	317 mm
			ACGIH TLV	1000	ppm STEL	
			OSHA PEL	500	ppm	
			OSHA PEL	1000	ppm STEL	
2	110-82-7	Cyclohexane				
			ACGIH TLV	100	ppm	100 mm
			OSHA PEL	300	ppm	

Section 3 -- HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE
INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE
EYES: Irritation.
SKIN: Prolonged or repeated exposure may cause irritation.
INHALATION: Irritation of the upper respiratory system.
May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE
Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
None generally recognized.

Continued on page 2

CANCER INFORMATION
For complete discussion of toxicology data refer to Section 11.

Section 4 -- FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.
SKIN: Wash affected area thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.
INGESTION: Do not induce vomiting. Get medical attention immediately.

Section 5 -- FIRE FIGHTING MEASURES

FLASH POINT	LEL	UEL
Propellant < 0 F	1.0	9.5

EXTINGUISHING MEDIA
Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS
Containers may explode when exposed to extreme heat.
Application to hot surfaces requires special precautions.
During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES
Full protective equipment including self-contained breathing apparatus should be used.
Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

Section 6 -- ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Remove all sources of ignition. Ventilate the area.
Remove with inert absorbent.

Section 7 -- HANDLING AND STORAGE

STORAGE CATEGORY
Not Available

Continued on page 3

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

Section 8 -- EXPOSURE CONTROLS/PERSONAL PROTECTION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section 9 -- PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	5.42 lb/gal	649 g/l
SPECIFIC GRAVITY	0.65	
BOILING POINT	<0 - 179 F	<-18 - 81 C
MELTING POINT	Not Available	
VOLATILE VOLUME	96 %	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
VOLATILE ORGANIC COMPOUNDS	(VOC Theoretical)	
Volatile Weight 95.00 %	Less Water and Federally Exempt Solvents	

Continued on page 4

Section 10 -- STABILITY AND REACTIVITY

STABILITY -- Stable

CONDITIONS TO AVOID
None known.

INCOMPATIBILITY
None known.

HAZARDOUS DECOMPOSITION PRODUCTS
By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION
Will not occur

Section 11 -- TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS
No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.
Prolonged and repeated exposure to Hexane may cause damage to nerve tissue of the arms and legs (peripheral neuropathy), resulting in muscular weakness and loss of sensation. This effect may be increased by the presence of Methyl Ethyl Ketone.
Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name				
74-98-6	Propane				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
110-54-3	Hexane				
		LC50	RAT	4HR	Not Available
		LD50	RAT		28700 mg/kg
107-83-5	Isohexane Isomers				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available
110-82-7	Cyclohexane				
		LC50	RAT	4HR	Not Available
		LD50	RAT		Not Available

Section 12 -- ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION
No data available.

Section 13 -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD
Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.
Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.
Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

Continued on page 5

Section 14 -- TRANSPORT INFORMATION

No data available.

Section 15 -- REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
110-54-3	Hexane	46	
110-82-7	Cyclohexane	2	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

Section 16 -- OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

The Clorox Company
1221 Broadway
Oakland, CA 94612
Tel. (510) 271-7000

Material Safety Data Sheet

I Product: FRESH SCENT CLOROX® DISINFECTING WIPES

Description: FRAGRANCED, MOISTENED TOWELETTE

Other Designations	Distributor	Emergency Telephone Nos.
EPA Reg. No. 5813-58	Clorox Sales Company 1221 Broadway Oakland, CA 94612	For Medical Emergencies call: (800) 446-1014 For Transportation Emergencies Chemtrac (800) 424-9300

II Health Hazard Data

Eye Contact: Can cause moderate eye irritation.
Ingestion: Liquid should be practically non-toxic if ingested.
Skin Contact: Prolonged skin contact may produce minor irritation.

FIRST AID: EYES- Flush with plenty of water. Call a physician if irritation persists. IF SWALLOWED- Drink a glassful of water. Call a physician or poison control center. SKIN- Wash thoroughly with soap and water after handling. INHALATION- If breathing is effected, move to fresh air.

Under normal consumer use conditions the likelihood of any adverse health effects are low.

III Hazardous Ingredients

Ingredient	Concentration	Worker Exposure Limit
n-Alkyl (C14, 60%; C16, 30% C12, 5%; C18, 5%) dimethyl-benzyl ammonium chloride	0.145%	Not established
n-Alkyl(C12, 68%, C14, 32%) Dimethyl Ethylbenzyl ammonium chloride	0.145%	Not established
Isopropanol CAS #67-63-0	1- 5%	400 ppm/500 ppm[1] 400 ppm[2]

[1]1998 ACGIH, TLV-TWA/STEL
TLV-TWA- Threshold Limit Value-Time Weighted Average.
STEL- Short Term Exposure Limit
[2]PEL- OHSA Permissible Exposure Limit

None of the ingredients in this product are on the IARC, NTP or OSHA carcinogen lists.

IV Special Protection and Precautions

No special protection or precautions have been identified for using this product under directed consumer use conditions.

The following recommendations are given for production facilities and for other conditions and situations where there is increased potential for accidental, large-scale or prolonged exposure.

Hygienic Practices- Wear safety glasses. Use rubber or nitrile gloves if in contact liquid, especially for prolonged periods.
Engineering Controls: Use general ventilation to minimize exposure to vapor or mist.
Work Practices: Avoid eye and skin contact and inhalation of vapor or mist. Avoid contact with food. Not for personal cleansing.

KEEP OUT OF THE REACH OF CHILDREN

V Transportation and Regulatory Data

U.S. DOT, IATA, IMG Hazard Class: Not restricted.

U.S. DOT Proper Shipping Name: None

EPA- SARA Title III/CERCLA: Product may be regulated under Sections 311/312. This product contains no chemicals regulated under Section 304/CERCLA or Section 313.

TSCA/DSL: All chemicals in this product are listed on the TSCA Inventory. The DSL status for some components has not been determined.

VI Spill Procedures/Waste Disposal

Spill Procedures: Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed down material.

Waste Disposal: Disposal must be made in accordance with applicable federal, state and local regulations.

VII Reactivity Data

Stability: Mixing with sodium hypochlorite may release small amounts of formaldehyde gas.

Storage/Disposal: Do not use or store near heat or open flame.

VIII Fire and Explosion Data

Flashpoint: >119°F Method: Closed cup.
Unusual Fire and Explosion Hazards: None

IX Physical Data

Flashpoint .....>119°F
Specific Gravity .....0.99 g/cc.
pH 5.0-6.0
Solubility in Water .....Liquid is completely dispersible

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DATA SUPPLIED IS FOR USE ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH DATE PREPARED 9/99

011297

Date Prepared:12/18/02

MATERIAL SAFETY DATA SHEET/COMPLIES WITH OSHA'S HAZARD COMMUNICATION STANDARD (29CFR 1910.1200)

SECTION I – PRODUCT IDENTIFICATION GOO GONE PRO-POWER SPRAY GEL

CONTAINER SIZE: 14 fl oz
STOCK NO.: GGS14
SUPPLIER'S NAME: MAGIC AMERICAN PRODUCTS, INC.
ADDRESS: 23700 MERCANTILE ROAD; CLEVELAND, OH 44122

24 Hour Emergency Phone: CHEMTEL 1-800-255-3924
Information Phone: MAGIC AMERICAN PRODUCTS, INC.
M-F, 9-5 EST 1-800-321-6330

DOT SHIPPING INFORMATION
DOT SHIPPING NAME: Not regulated
DOT HAZARD CLASS: None
DOT LABEL: None
DOT PACKING GROUP: None

HAZARDS RATING INFORMATION			
	NFPA	NPCA(HMIS)	0-Minimal
Health	1	2	1-Slight
Flammability	0	0	2-Moderate
Reactivity	0	0	3-Serious
Personal Protection	N/A	C	4-Extreme
			C-Glasses, gloves, apron

SECTION II - INGREDIENTS

CHEMICAL NAME	CAS NO.	%	313/CHEMICAL	PEL	TWA/TLV	CARCINOGEN
Proprietary Mixture (Alkaline Water-based Surfactant and 2-Butoxyethanol Solution)	None	<25	No ingredients are regulated	N/A	N/A	No

All ingredients used in this proprietary mixture are listed on the TSCA Inventory List and none is listed as carcinogenic by OSHA, IARC or NTP.

SECTION III – PHYSICAL DATA

Boiling Point: 207°F (97°C)
Vapor Pressure: 24.2 mm Hg (25°C)
Solubility in Water: Complete
pH: 8.3 – 8.8
Specific Gravity: 1.03 g/ml
Evaporation Rate: Similar to Water
Appearance/Odor: Translucent Orange with Citrus, Orange-like Fragrance
VOC Content: 10.0% VOC by CARB

SECTION IV – FIRE AND EXPLOSION DATA

Flash Point: Greater than 200°F (93°C)

Explosive Hazard: Not an explosive.

Extinguishing Media: Use extinguishing media suitable for other combustible materials in area.

Special Fire Fighting Procedures: None; material is not combustible.

Unusual Fire and Explosion Hazards: None.

SECTION V – REACTIVITY DATA

Stability: Stable
Hazardous Polymerization: Will not occur.
Hazardous Decomposition Products: None known.
Incompatibility: None known.

SECTION VI – STORAGE AND HANDLING

KEEP OUT OF THE REACH OF CHILDREN

Store in a cool, dry area away from heat or open flame.

Do not store at temperatures above 120°F.

SECTION VII – HEALTH EFFECTS AND FIRST AID

PRIMARY ROUTES OF ENTRY AND EFFECTS OF OVEREXPOSURE

EYES: According to the Federal Hazardous Substance Act testing protocol 16CFR 1500.42, this product was shown to be an eye irritant in laboratory tests. Therefore, this material is labeled an eye irritant.

SKIN: Irritant. According to the Federal Hazardous Substance Act testing protocol 16CFR 1500.41, this product was shown not to be a primary skin irritant in laboratory tests. Therefore, this product is not considered a skin irritant.

INHALATION: Not expected to be an inhalation hazard.

INGESTION: According to the Federal Hazardous Substance Act testing protocol 16CFR 1500.3(c)(2)(i), this product was shown to be non-toxic by the oral route of exposure.

LONG TERM EFFECTS: No long term effects expected.

FIRST AID PROCEDURES

EYES: Remove any contact lenses and flush both eyes with cool running water for at least 15 minutes. Seek medical attention if irritation persists.

SKIN: Wash with soap and water. With extended periods of use, a skin emollient should be applied after use to prevent drying.

INHALATION: Remove person to fresh air.

INGESTION: Rinse mouth and then drink a large glass of water and seek immediate medical attention.

SECTION VIII – SPECIAL PROTECTION DATA

RESPIRATORY PROTECTION: Not needed.

VENTILATION: Not needed.

PROTECTIVE GLOVES: Chemically resistant gloves (neoprene) are recommended for prolonged use.

EYE PROTECTION: Recommended if splashing during transfer is possible.

SECTION IX – SPILL OR LEAK PRECAUTIONS

STEPS TO BE TAKEN IN CASE OF SPILLAGE OR LEAKAGE: Ventilate area. Spilled material can be picked up with sorbant material. Use caution where surfaces may become slippery from spilled material.

WASTE DISPOSAL METHOD: Sweep up and place in empty container and close. Dispose of according to local, state and federal regulations.
WASTE DISPOSAL CAUTION: Hazardous substances cleaned with this product may create hazardous waste that must be properly characterized and disposed of in accordance with RCRA, state and local regulations.

N/A = NOT APPLICABLE N/E = NOT ESTABLISHED N/D = NOT DETERMINED < = LESS THAN > = MORE THAN

NOTICE: The information contained on this Material Safety Data Sheet is for Industrial and Institutional use only and considered accurate as of the date of publication. It is not necessarily all inclusive or fully adequate in every circumstance. The suggestions should not be confused with or followed in violation of applicable laws, regulations, rules or insurance requirements. No warranty, express or implied, of merchantability, fitness, accuracy of data, or the results to be obtained from the use thereof is made. The vendor assumes no responsibility for injury or damages resulting from the inappropriate use of this product. Magic American assumes no responsibility for any product information placed on the Internet by individuals who are not affiliated with Magic American.

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I - General Information

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: ISOPROPYL ALCOHOL, 70%; 2-PROPANOL 70%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

3 - Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PRODUCT#
2-PROPANOL	70.0	67-63-0	FISHER SCIENTIFIC	A426-4
DI-WATER	30.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	1	1	0	3

SPECIAL HAZARD RATING: AVOID INHALING VAPORS

5 - Section IV - Storage and Stability

STORAGE: FLAMMABLE

STABILITY: 3 YEARS

Material Safety Data Sheet

2-Propanol, 99-100%

ICC# 12090

Section 1 - Chemical Product and Company Identification

MSDS Name: 2-Propanol, 99-100%
Catalog Numbers: AC149320200, AC412790040, NC9051978, S77795, S77795HPLC, S77798, XXA451U200LI, A415-20, A415-4, A416-1, A416-20, A416-200, A416-4, A416-500, A416200LC, A41620LC, A416FB115, A416FB19, A416FB200, A416FB50, A416J500, A416P-4, A416POP19, A416POP200, A416POP50, A416POPB200, A416POPB50, A416RB115, A416RB19, A416RB200, A416RB50, A416RS115, A416RS200, A416RS28, A416RS50, A416S-4, A416SK-4, A416SK4LC, A416SS-28, A416SS115, A416SS19, A417-1, A417-4, A419-1, A419-4, A419POP200, A419POP50, A419RS115, A419RS200, A419RS28, A419SS115, A419SS200, A419SS28, A419SS50, A426F-1GAL, A426P-4, A426P1GAL, A426PJ4, A426S-20, A426S-200, A426S-4, A451-1, A451-4, A451CU50, A451J1, A451N219, A451NB219, A451POP19, A451POP19N, A451POP200, A451POP50, A451RS-19, A451RS-200, A451RS-50, A451SK-1, A451SK-4, A451SS-200, A451SS19, A464-4, A464J4, A464POP200, A464RS200, A464SK4LI, A464SS200, A516-20, A516-200, A516-4LC, A516-4LOT001, A519-4, A520-4, A520POP19, A520POP200, A520POP50, A520POPN19, A520RS200, A520SS115, A520SS19, A520SS200, A520SS50, A5224, BP2621100, HC5001GAL, NC9059140, NC9059141, NC9587417, NC9618918, NC9754679, NC9808149, NC9872286, NC9909588, NC9923474, NC9926971, S77795SPEC, XXA520200LI1
Synonyms: Isopropanol; Dimethylcarbinol; sec-Propyl alcohol; Rubbing alcohol; Petrohol; 1-Methylethanol; 1-Methylethyl alcohol; 2-Hydroxypropane; 2-Propyl alcohol; Isopropyl alcohol; Propan-2-ol; IPA; 2-Propanol.
Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
67-63-0	2-Propanol	> 99	200-661-7

Hazard Symbols: XI F
Risk Phrases: 11 36 67

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 12 deg C. **Warning!** May cause central nervous system depression. May form explosive peroxides. **Flammable liquid and vapor.** Hygroscopic (absorbs moisture from the air). Causes respiratory tract irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. This material has been reported to be susceptible to autoxidation and therefore should be classified as peroxidizable. Causes eye irritation. Breathing vapors may cause drowsiness and dizziness. Prolonged or repeated contact causes defatting of the skin with irritation, dryness, and cracking.

Target Organs: Central nervous system, respiratory system, eyes, skin.

Potential Health Effects

Eye: Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury. In the eyes of a rabbit, 0.1 ml of 70% isopropyl alcohol caused conjun ctivitis, iritis, and corneal opacity.

Skin: May cause irritation with pain and stinging, especially if the skin is abraded. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. May be absorbed through intact skin. Dermal absorption has been considered toxicologically insignificant. T he cases of deep coma associated with skin contact are thought to be a consequence of gross isopropanol vapor inhalation in rooms with inade quate ventilation, rather than being attributable to percutaneous abso rption of isopropanol per se.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal. The probable oral lethal dose in humans is 240 ml (2696 mg/kg), but in gestion of only 20 ml (224 mg/kg) has caused poisoning.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical id.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Urine acetone test may be helpful in diagnosis. Hemodialysis should be considered in severe intoxication. Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. May form explosive peroxides. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media: Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.

Flash Point: 12 deg C (53.60 deg F)

Autoignition Temperature: 399 deg C (750.20 deg F)

Explosion Limits, Lower:2.0 vol %

Upper: 12.7 @ 200—F

NFPA Rating: (estimated) Health: 1; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray to dilute spill to a non-flammable mixture. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor or mist. Do not allow to evaporate to near dryness.
Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation. Store protected from moisture. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
2-Propanol	200 ppm TWA; 400 ppm STEL	400 ppm TWA; 980 mg/m3 TWA 2000 ppm IDLH	400 ppm TWA; 980 mg/m3 TWA

OSHA Vacated PELs: 2-Propanol: 400 ppm TWA; 980 mg/m3 TWA
Personal Protective Equipment
Eyes: Wear chemical goggles.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: colorless
Odor: alcohol-like
H: Not available.
Vapor Pressure: 33 mm Hg @ 20 deg C
Vapor Density: 2.1 (Air=1)
Evaporation Rate:1.7 (n-butyl acetate=1)
Viscosity: 2.27 mPas @ 20C
Boiling Point: 82 deg C @ 760 mmHg
Freezing/Melting Point:-88 deg C
Decomposition Temperature: Not available.
Solubility: Miscible.
Specific Gravity/Density:0.7850 (water=1)
Molecular Formula:C3H8O
Molecular Weight:60.09

Section 10 - Stability and Reactivity

Chemical Stability: Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat or shock. This material is most hazardous when peroxide levels are concentrated by distillation or evaporation. Isopropanol is susceptible to autoxidation and therefore should be classified as peroxidizable.
Conditions to Avoid: Light, ignition sources, excess heat, exposure to moist air or water.
Incompatibilities with Other Materials: Strong oxidizing agents, strong acids, strong bases, amines, ammonia, ethylene oxide, isocyanates, acetaldehyde, chlorine, phosgene, Attacks some forms of plastics, rubbers, and coatings., aluminum at high temperatures.
lazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 67-63-0: NT8050000
LD50/LC50:
CAS# 67-63-0:
Draize test, rabbit, eye: 100 mg Severe;
Draize test, rabbit, eye: 10 mg Moderate;
Draize test, rabbit, eye: 100 mg/24H Moderate;
Draize test, rabbit, skin: 500 mg Mild;
Inhalation, mouse: LC50 = 53000 mg/m3;
Inhalation, rat: LC50 = 72600 mg/m3;
Inhalation, rat: LC50 = 16000 ppm/8H;
Oral, mouse: LD50 = 3600 mg/kg;
Oral, mouse: LD50 = 3600 mg/kg;
Oral, rabbit: LD50 = 6410 mg/kg;
Oral, rat: LD50 = 5000 mg/kg;
Oral, rat: LD50 = 5045 mg/kg;
Skin, rabbit: LD50 = 12800 mg/kg;
Carcinogenicity:
AS# 67-63-0:
ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: IARC Group 3 - not classifiable
Epidemiology: Experimental teratogenic and reproductive effects have been reported for isopropanol.

Early epidemiological studies hav e suggested an association between the strong acid man ufacture of isopropyl alcohol and paranasal sinus cancer in workers.
Teratogenicity: A rat & rabbit developmental toxicity study showed no teratogenic effects at doses that were clearly maternally toxic. In a separate rat study, no evidence of developmental neurotoxicity was ssociated with gestational exposures to IPA up to 1200 mg/kg/d.
Reproductive Effects: See actual entry in RTECS for complete information.
Neurotoxicity: No information available.
Mutagenicity: See actual entry in RTECS for complete information.
Other Studies: Standard Draize Test: Administration onto the skin (rabbit) = 500 mg (Mild). Standard Draize Test: Administration into the eye (rabbit) = 100 mg (Moderate). Standard Draize Test : Administration into the eye = 10 mg (Moderate). Standard D raize test: Administration into the eye (rabbit) = 100 mg/24 H (Moderate).

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: >1000 ppm; 96h; LC50 ia: >1000 ppm; 96h; LC50 Gold orfe: 8970-9280 ppm; 48h; LC50 IPA has a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a low potential to affect the germination of some plants, a high potential to biodegrade (low persistence) with unacclimated microorganisms from activated sludge.
Environmental: No information available.
Physical: THOD: 2.40 g oxygen/gCOD: 2.23 g oxygen/gBOD-5: 1.19-1.72 g oxygen/g
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	ISOPROPANOL				ISOPROPANOL
Hazard Class:	3				3
UN Number:	UN1219				UN1219
Packing Group:	II				II
Additional Info:					FLASHPOINT 12C

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 67-63-0 is listed on the TSCA inventory.
Health & Safety Reporting List

CAS# 67-63-0: Effective Date: 12/15/86; Sunset Date: 12/15/96

Chemical Test Rules

CAS# 67-63-0: Testing required by manufacturers, importers, processors

Section 12b

'one of the chemicals are listed under TSCA Section 12b.

ſSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 67-63-0: acute, chronic, flammable.

Section 313

This material contains 2-Propanol (CAS# 67-63-0, 99%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 67-63-0 can be found on the following state right to know lists: California, New Jersey, ⁿennsylvania, Minnesota, Massachusetts.

⁻alifornia No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI F

Risk Phrases:

R 11 Highly flammable.
R 36 Irritating to eyes.
R 67 Vapors may cause drowsiness and dizziness.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 24/25 Avoid contact with skin and eyes.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 67-63-0: 1

Canada - DSL/NDSL

CAS# 67-63-0 is listed on Canada's DSL List.

Canada - WHMIS

ⁿhis product has a WHMIS classification of B2, D2B.

⁻anadian Ingredient Disclosure List

CAS# 67-63-0 is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 67-63-0: OEL-AUSTRALIA:TWA 400 ppm (980 mg/m3);STEL 500 ppm (12 25 mg/m3) OEL-BELGIUM:TWA 400 ppm (985 mg/m3);STEL 500 ppm (1230 mg/m 3) OEL-DENMARK:TWA 200 ppm (490 mg/m3);Skin OEL-FRANCE:STEL 400 ppm (980 mg/m3) OEL-GERMANY:TWA 400 ppm (980 mg/m3) OEL-JAPAN:STEL 400 p m (980 mg/m3) OEL-THE NETHERLANDS:TWA 400 ppm (980 mg/m3);Skin OEL- THE PHILIPPINES:TWA 400 ppm (980 mg/m3) OEL-RUSSIA:STEL 400 ppm (10 m g/m3) OEL-SWEDEN:TWA 150 ppm (350 mg/m3);STEL 250 ppm (600 mg/m3) OE L-SWITZERLAND:TWA 400 ppm (980 mg/m3);STEL 800 ppm OEL-TURKEY:TWA 200 ppm (500 mg/m3) OEL-UNITED KINGDOM:TWA 400 ppm (980 mg/m3);STEL 500 ppm;Skin OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OE L IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 7/23/1999
Revision #11 Date: 10/12/2001

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.

Bristol-Myers Squibb Company

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

November 1, 2000

BRISTOL MYERS SQUIBB, COMPANY
WORLDWIDE MEDICINES GROUP
Environmental, Health and Safety
P.O. Box 191
NEW BRUNSWICK, N.J. 08903
(732) 519-3683

Product Identification: Keri Lotion Original Fragrance Free.

Chemical Name: Active ingredients - mineral oil, USP 15.9% and lanolin oil 0.6%.
Synonym: Keri Fragrance Free, Keri Lotion Fragrance Free.
How Supplied: 55 ml, 190 ml, 255 ml, and 580 ml plastic containers.
Product Use: Moisturizing lotion for the skin.
Chemical Family: Not applicable.
Molecular Formula: Not applicable.
CAS #: Numerous CAS numbers - see below.

EMERGENCY CONTACTS

Transportation: CHEMTREC (800)424-9300. For all international transportation emergencies call CHEMTREC at 703-527-3887, collect call accepted.

EMERGENCY OVERVIEW: Smooth, white lotion. The constituents of Keri Lotion Original Fragrance Free are all "generally recognized as safe" under the conditions of the product's intended use, as determined by qualified scientific experts. This product is for external use only.

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2. COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	HAZARDOUS (Y/N)	CONCENTRATION (WT %)	CAS#	EXPOSURE GUIDELINE
mineral oil	Y	>1	8042-47-5	*5 mg/cu m OSHA PEL and **ACGIH TLV-TWA; 10 mg/cu m ***TLV-STEL.
lanolin oil	Y	<1	70321-63-0	None.
glyceryl monostearate SE	N	>1	N/A-mixture	None.
PEG 40 stearate	N	>1	9004-99-3	None.
propylene glycol	Y	>1	57-55-6	None.

COMPONENTS	HAZARDOUS (Y/N)	CONCENTRATION (WT %)	CAS#	EXPOSURE GUIDELINE
Westwood emulsifier	N	>1	68139-91-3	None.
laureth-4	Y	>1	68551-12-2	None.
water	N	>1	7732-18-5	None.

Present at < 1%: methylparaben, propylparaben, carbomer 934, triethanolamine, Na dioctyl sulfosuccinate, quaternium - 15.

*OSHA PEL = Occupational Safety & Health Administration- Permissible Exposure Limit for an 8-hour workday, 40-hour work week.

**ACGIH TLV-TWA = American Conference of Governmental Industrial Hygienists- Threshold Limit Value-Time Weighted Average for an 8-hour workday, 40-hour work week.

***TLV-STEL = ACGIH Threshold Limit Value - Short Term Exposure Limit.

3. HEALTH HAZARDS IDENTIFICATION

EFFECTS OF OVEREXPOSURE

Routes of Entry

1. Inhalation: Exposure to this material by inhalation is not expected to occur due to the physical form of the product (lotion). The extent of systematic absorption of the material, if inhalation were to occur, is not known.

2. Skin contact: During manufacture, unwanted exposure may occur if gloves and protective clothing are not worn.

3. Ingestion: Ingestion of large quantities of this material in an occupational setting would not be expected to occur. Ingestion of trace amounts of the material might occur if material contacts hands and hands are not washed prior to eating, drinking or smoking.

Acute

1. Inhalation: There is no information concerning the potential for this material to produce symptoms after inhalation.

2. Skin Contact
a. Toxic: These materials do not show phototoxicity based on toxicology testing and under normal use conditions should not show toxicity.
b. Irritation: Mineral oil, propylene glycol, and laureth-4 may be irritating to the skin of some employees during manufacturing. Signs of irritation may include redness, burning, itching or swelling. Toxicology testing indicates that Keri Lotion Original Fragrance Free is not irritating to the skin.
c. Sensitization: Toxicology testing shows that the product is not a sensitizer.

3. Ingestion: Inadvertent ingestion of trace amounts of this product would not be expected to result in harmful effects. The product is of low toxicity. If a large amount of lotion is ingested, it may have laxative effects. If vomiting should occur after ingestion of a large amount of the product there is potential for aspiration into the lungs and development of pneumonia.

4. Eye Contact: The product contains mineral oil, propylene glycol, and laureth-4 which may be of concern during manufacture. Signs associated with eye irritation may include redness, tearing, swelling, pain.

Chronic: There are no known chronic effects associated with the use of this product.

Exposure Guideline Summary: An exposure guideline has not been established for Keri Lotion Original Fragrance Free. Mineral oil has an OSHA PEL and ACGIH TLV-TWA of 5 mg/cu m. The TLV-STEL for mineral oil is 10 mg/cu m.

Carcinogen Lists IARC: No. NTP: No. OSHA: No.

Target Organs: No known target organs.

Medical Conditions Aggravated by Exposure: None known.

Medical Surveillance Recommendation: None.

4. FIRST AID MEASURES

Ingestion: Get medical attention. Do NOT induce vomiting. If vomiting should occur, lower head below knees to avoid aspiration.

Inhalation: This product is not expected to produce an inhalation exposure at ambient conditions. Remove exposed person to fresh air. If person is not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Get medical attention.

Skin Contact: If contact with constituents of the product should occur during manufacture, remove contaminated clothing. Wash skin with plenty of water for 15 minutes.

Eye contact: Hold eyelids apart and flush with plenty of water for 15 minutes. Get medical attention if signs of irritation develop.

Note to physicians: Do not induce vomiting due to high concentration of mineral oil in the product.

5. FIRE FIGHTING MEASURES

Flash point: Not available.
Autoignition Temperature: Not available.

Flammability limits
LEL: Not available.
UEL: Not available.

Combustibility of Dusts: Not applicable, material exists as a lotion.

Extinguishing Media: In case of fire use water, carbon dioxide, foam or dry chemical.

Firefighting Instructions: Firefighters should wear self-contained breathing apparatus (SCBA), flame and chemical resistant clothing, boots and gloves. Evacuate personnel to upwind direction, remove unneeded material and cool container(s) with water from maximum distance.

Hazardous Combustion Products: CO, CO2, NOx, and SOx.

Unusual Hazards: None.

6. ACCIDENTAL RELEASE MEASURES

Spill/Clean-up: Absorb lotion onto appropriate material and place into container for disposal. Impermeable gloves (latex or nitrile) and eye protection should be worn as a minimum precaution. Large spills may be cleaned up using vacuum pumps, shovels, buckets or other means and placed in suitable containers.

7. HANDLING AND STORAGE

Handling Precautions: Avoid unnecessary contact.

Container Requirements: Plastic containers as described in Section 1.

Storage Conditions: Store product at room temperature and keep tightly closed.

8. EXPOSURE CONTROLS AND PRECAUTIONS

Ventilation Requirements: Keep airborne concentration low by enclosure of processes or local exhaust ventilation, as required. No special ventilation should be needed when handling small quantities of this product under normal conditions.

Respiratory Protection: A respirator should not be needed when handling this product in a clinical or manufacturing setting under normal conditions.

Eye Protection: Wear safety goggles (ANSI Z87.1) during manufacture or spill response for this product. Use of eye protection is recommended for other handling of this material.

Protective Gloves: Wear impervious (latex or nitrile) gloves during the manufacturing of this product.

Special Clothing: Wear protective coveralls whenever the potential for splashing or spraying exists.

Hygiene: During manufacture wash hands after handling product constituents or the product before eating, smoking, using the lavatory, and at the end of the day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State/Color: Keri Lotion Original Fragrance Free is smooth, white lotion.
Boiling point: Not available.
Evaporation rate: Not available.
Flash point: Not applicable.
Freezing point/Melting point: Not available.
Octanol/water partition coefficient: Not available.
Odor (threshold): Fragrance Free formulation.
pH: 5.5 - 6.5.
Solubility in water: Not soluble.
Specific gravity: Not available.
Vapor density (Air = 1): If adequate temperatures caused the product to volatilize, its vapor density would be much greater than 1 (heavier than air) with the exception of the water present in the product which would rise as steam.
Vapor Pressure: Not available.
Viscosity (20-22C): 7,700 - 50,000 cps. (If the viscosity is >50,000 cps, the product may be approved based on pump/pour characteristics in normal use.)

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Incompatibilities: Keep away from strong oxidizers and strong acids.

Conditions of Reactivity: Keep away from excessive heat, sparks and flame.

Hazardous Decomposition Products: CO, CO2, NOx, and SOx.

Hazardous Polymerization: Will not occur.

Explosion data relative to mechanical impact: Not applicable.

Explosion data relative to static discharge: Not available.

11. TOXICOLOGICAL INFORMATION

RTECS # (U.S.): None assigned.

ACUTE

LD 50:
LD50 oral (mouse)>20 ml/kg;
LD50 oral (rat)>20 ml/kg.

LC 50: Not available.

CHRONIC

Carcinogenicity: The product has not been tested for carcinogenicity.

Mutagenicity: Keri Lotion Original, with fragrance, is negative for mutagenicity in the Ames test.

Teratogenicity: The product has not been tested for teratogenicity.

Reproductive Effects: The product has not been tested for potential to cause adverse reproductive effects.

Toxicological synergistic products: None known.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: No information.

Chemical Fate Information: No information.

13. DISPOSAL CONSIDERATIONS

Disposal: Dispose of in a manner consistent with National, local and other applicable regulations.

14. TRANSPORT INFORMATION

DOMESTIC
Proper shipping name: Not applicable.
Hazard Class, UN #, Packing Group: Not a DOT regulated material.
Label requirements: Not applicable.
Placard requirements: Not applicable.

INTERNATIONAL
Proper shipping name: Not applicable.
Hazard Class, UN #, Packing Group: Not a regulated material.
Label requirements: Not applicable.
Placard requirements: Not applicable.

15. REGULATORY/STATUTORY INFORMATION -- not meant to be all-inclusive.

U.S. Federal: None noted.

International: None noted.

EC Labeling: Not required.

16. OTHER INFORMATION

November 1, 2000: The MSDS dated 8/26/98, was revised to change telephone numbers.
This material safety data sheet (MSDS) is intended for use by personnel who handle this material as part of their job responsibilities orindividuals who use the product.It does not address proper techniques for use and application of the product. Information concerning use and application of this material should be obtained from the container and/or the case containing multiple containers.

The information contained in this MSDS is believed to be accurate and represents information reasonably available at the time of preparation. However, we make no warranty, express or implied, with respect to such information, and we assume no liability from its use.

C0066/bac

MATERIAL SAFETY DATA SHEET
MULTI PURPOSE LITHIUM GREASE

(5 pages)

11300,11301,11302,11306
11315,11316,11328,11330
11332.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME:	MULTI PURPOSE LITHIUM GREASE
PART No.:	MC 2215PB
UN/NA (PIN) No.:	N/A
APPLICATIONS:	Lubricating Grease
EMERGENCY TELEPHONE:	Info Trac - (800) 535-5053
SUPPLIER:	Chemtool Incorporated 8200 Ridgefield Road P.O. Box 538 Crystal Lake, IL 60039-0538
TELEPHONE:	(815) 459-1250
FAX:	(815) 459-1955

2. COMPOSITION, INFORMATION ON INGREDIENTS

INGREDIENT NAME:	CAS No.:	CONTENTS :	EPA RQ:	TPQ:
PETROLEUM DISTILLATES AND RESIDUAL OILS**		70-100 %	N/A	N/A
CARBON BLACK	1333-86-4	0.1-1 %	N/A	N/A

COMPOSITION COMMENTS:

Refer to section eight for exposure limits on ingredients.
Chemical ingredients not regulated by OSHA or SARA are treated confidentially.
**Mixture of CAS Registry Numbers 64742-52-5 and 64742-57-0.

3. HAZARDS IDENTIFICATION

Exposure to vapors generated at high temperatures, may cause respiratory irritation.

CHRONIC EFFECTS:
SENSITIZATION:
No known information.

CARCINOGENICITY:
Product contains:
IARC-3 and NIOSH-X listed carcinogen(s):
Carbon Black, CAS # 1333-86-4, 0.1 - 1%

HEALTH WARNINGS:
INHALATION. Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely due to the low volatility of this product. SKIN CONTACT. Repeated or prolonged contact can result in drying of the skin. EYE CONTACT. Irritating. INGESTION. Can cause stomach ache and vomiting. Main hazard, if ingested, is aspiration into the lungs and subsequent pneumonitis.

ROUTE OF ENTRY:
Inhalation. Skin and/or eye contact. Ingestion.

MEDICAL SYMPTOMS:
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not determined

4. FIRST AID MEASURES

INHALATION: Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor of hot product, immediately remove from source of exposure. Move the exposed person to fresh air at once. For breathing difficulties oxygen may be necessary. Get medical attention if any discomfort continues.

INGESTION: DO NOT INDUCE VOMITING! Get medical attention immediately!

SKIN: Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues.

EYES: Rinse the eye with water immediately. Continue to rinse for at least 15 minutes. Contact physician if discomfort continues.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F):	435	METHOD: Cd OC (Cleveland open cup).
FLAMMABILITY LIMIT - LOWER(%):	N/D	
FLAMMABILITY LIMIT - UPPER(%):	N/D	

EXTINGUISHING MEDIA:
Use: Carbon dioxide (CO_2). Dry chemicals, sand, dolomite etc. Alcohol resistant foam. Water spray, fog or mist.

SPECIAL FIRE FIGHTING PROCEDURES:
Use water to keep fire exposed containers cool and disperse vapors. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures. Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control.

UNUSUAL FIRE & EXPLOSION HAZARDS:
Pressure will increase in over heated, closed containers.

HAZARDOUS COMBUSTION PRODUCTS:
Acrid smoke/fumes. Oxides of: Carbon.

PROTECTIVE MEASURES IN CASE OF FIRE:
Self-contained breathing equipment and chemical resistant clothing recommended.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
Minimize skin contact.

PRECAUTIONS TO PROTECT THE ENVIRONMENT:
Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas. Assure conformity with applicable government regulations.

SPILL CLEAN-UP PROCEDURES:
Keep all sources of ignition and hot metal surfaces away from spill. Avoid contact with eyes or skin. Place leaking containers in well ventilated area. If fire potential exists, blanket spill with foam or use water spray to disperse vapors. Contain spill to minimize contaminated area and facilitate salvage or disposal. To clean up spill, flush area sparingly with water or use absorbant material. Avoid discharge to natural water ways.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS:

Keep away from heat, sparks and open flame. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Do not reuse container. Keep lid closed when not in use. Do not store or mix with strong oxidizers. Avoid spilling, skin and eye contact. Eye wash and emergency shower must be available at the work place.

STORAGE PRECAUTIONS:

Store separate from strong acids and oxidizers. Keep away from heat, sparks and open flame.

STORAGE CRITERIA:

Chemical storage.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

		OSHA PEL:		ACGIH TLV:		OTHER:		
INGREDIENT NAME:	CAS No.:	TWA:	STEL:	TWA:	STEL:	TWA:	STEL:	UNITS:
PETROLEUM DISTILLATES AND RESIDUAL OILS**		5	NAV	5	10	NAV	NAV	mg/m3
CARBON BLACK	1333-86-4	3.5	N.E.	3.5	N.E.	3.5	N.E.	mg/m3

PROTECTIVE EQUIPMENT:

ENGINEERING CONTROLS:

Use engineering controls to reduce air contamination to permissible exposure level.

VENTILATION: No specific ventilation requirements noted, but forced ventilation may still be required if air contamination exceeds acceptable level.

RESPIRATORS: No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.

PROTECTIVE GLOVES:

Chemical resistant gloves recommended to prevent prolonged or repeated contact.

EYE PROTECTION:

Wear splash-proof eye goggles to prevent any possibility of eye contact.

PROTECTIVE CLOTHING:

Wear appropriate clothing to prevent repeated or prolonged skin contact.

HYGIENIC WORK PRACTICES:

Wash at the end of each work shift and before eating, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE:	Grease.
COLOR:	Black.
ODOR:	Mild (or faint). Petroleum.
SOLUBILITY DESCRIPTION:	Insoluble in water.
SOLUBILITY VALUE (g/100g H2O 68°F):	< 0.1
DENSITY/SPECIFIC GRAVITY (g/ml):	0.90 TEMPERATURE (°F): 61

VAPOR DENSITY (air=1):	>5	
VAPOR PRESSURE:	<0.01 mmHg	TEMPERATURE (°F): 68
EVAPORATION RATE:	<1	REFERENCE:BuAc=1
pH-VALUE, CONC. SOLUTION:	N/A	

10. STABILITY AND REACTIVITY

STABILITY: Normally stable.

CONDITIONS TO AVOID:
Avoid contact with acids and oxidizing substances.

HAZARDOUS POLYMERIZATION:
Will not occur.

POLYMERIZATION DESCRIPTION:
Not applicable

HAZARDOUS DECOMPOSITION PRODUCTS:
Oxides of: Carbon.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:
No experimental toxilogical data on the preparation as such is available.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:
There is no ecological data on the product itself.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS:
Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations.

14. TRANSPORT INFORMATION

PRODUCT RQ:	N/A
U.S. DOT:	
UN/NA No.:	N/A
U.S. DOT HAZARD LABEL:	No DOT label requirement noted
U.S. DOT CLASS:	Not regulated.

SEA TRANSPORT:
INFORMATION ON SEA TRANSPORT: Not regulated

AIR TRANSPORT:
INFORMATION ON AIR TRANSPORT: Not regulated

15. REGULATORY INFORMATION

REGULATORY STATUS OF INGREDIENTS:

NAME:	CAS No:	TSCA:	CERCLA:	SARA 302:	SARA 313:	DSL(CAN):
PETROLEUM DISTILLATES AND RESIDUAL OILS**		Yes	N/A	N/A	N/A	Yes
CARBON BLACK	1333-86-4	Yes	N/A	N/A	N/A	Yes

US FEDERAL REGULATIONS:

REGULATORY STATUS: This Product or its components, if a mixture, is subject to following regulations (Not meant to be all inclusive - selected regulations represented): TSCA: The ingredients of this product are on the TSCA Inventory. SARA 311 Categories: NONE. Section 313: This product may contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372 Zinc compounds up to 3% and Antimony compounds up to 0.5%.

CANADIAN REGULATIONS:

LABELS FOR SUPPLY:

REGULATORY STATUS: This Material Safety Data Sheet has been prepared in compilance with the Controled Product Regulations.

16. OTHER INFORMATION

NFPA HAZARD RATING:

HEALTH: Irritation, minor residual injury (1)

FLAMMABILITY: Burns only if pre-heated (1).

REACTIVITY: N/A (0).

SPECIAL HAZARD: N/A

NPCA HMIS HEALTH: 1 Slight Hazard

PERS. PROTECT. INDEX: B

PREPARED BY: Heather Holich

DATE: March 15, 2002

DISCLAIMER:

While the information and recommendations set forth herein are believed to be accurate as of the date thereof, Chemtool Incorporated makes no warranty with respect thereto and disclaims all liability from reliance therein.

RECKITT BENCKISER

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	**PROFESSIONAL LYSOL® BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL)**
Product Description	A professional disinfectant spray that kills viruses, bacteria, mold and mildew.
Manufacturer	Reckitt Benckiser Inc. 1655 Valley Road Wayne, N.J. 07474
Product Identifier	EPA Reg. No. 777-72-675; Original Scent, Fresh Scent, Country Scent®, Crisp Linen®, Spring Waterfall™, Summer Breeze™.
Item Number	36241-04675-07
Formula Number	432-124A (F/F 359979) Original Scent, 73-087 (F/F 356593) Fresh Scent, 147-082 (F/F 356595) Country Scent®, 258-011 (F/F 356597) Crisp Linen® Scent, 550-095 (F/F 367851) Spring Waterfall™, 629-183C (F/F 372171) Summer Breeze™ Scent.
UPC Number	36241-04650 Original; 36241-04675 Fresh Scent; 36241-74260 Country Scent; 36241-74827 Crisp Linen® Scent; 36241-75523 Spring Waterfall™ and 36241-74520 Summer Breeze™ Scent, all 19 oz. size.

MSDS#	Not available.
Validation Date	**8/8/2002**
Print Date	8/9/2002

In case of Emergency:	Telephone: 800-677-9218 (Professional Products)
Transportation Emergencies:	Chemtrec: 800-424-9300 (U.S. & Canada)

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits : TLV/PEL
CARBON DIOXIDE	124-38-9	4.0	TWA: 9000 (mg/m^3) from ACGIH (TLV) TWA: 5000 (ppm) from ACGIH (TLV) TWA: 9000 STEL: 54 (mg/m^3) from OSHA TWA: 5000 (ppm) from OSHA
2) ETHANOL	64-17-5	79.0	TWA: 1880 (mg/m^3) from ACGIH (TLV) TWA: 1000 (ppm) from ACGIH (TLV) TWA: 1900 (mg/m^3) from OSHA TWA: 1000 (ppm) from OSHA

Section 3. Hazards Identification

Emergency Overview

WARNING: Flammable. Contents under pressure. Causes eye irritation. Do not spray in eyes, on skin or on clothing.

Keep away from heat, sparks and open flame. Exposure to temperatures above 130° F may cause bursting. Do not puncture or incinerate.

KEEP OUT OF REACH OF CHILDREN.

Section 4. First Aid Measures

Eye Contact	Immediately flush eyes thoroughly with water, remove any contact lenses, and continue to flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.
Skin Contact	If on skin, wash with plenty of soap and water. If irritation occurs or persists, get medical attention.
Inhalation	If required, remove to fresh air.
Ingestion	Rinse mouth and drink a glass of water. If symptoms persist, consult a physician. NEVER give an unconscious person anything to ingest.

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Continued on Next Page

Section 5. Fire and Explosion Data

Flammability	Flammable. See Section 14 for any Shipping Classifications.
Flash Point	Not applicable. Aerosol flame extension greater than 18 inches or 45 cm.
Explosive Limits in Air	LOWER: 3.3% UPPER: 19%
Products of Combustion	Not available.
Fire and Explosion Hazards	CONTENTS UNDER PRESSURE. Do not use or store near hear or open flame. Do not puncture or incinerate. Exposure to temperatures above 130° F (55° C) may cause bursting.
Fire Fighting Media and Instructions	Water spray, foam, dry chemical or carbon dioxide. Use media suitable for surrounding fire. Use water spray to cool fire exposed containers.
Special Fire Fighting Instructions	Wear self-contained breathing apparatus and protective equipment appropriate for fighting a typical chemical fire. Move containers away from fire if possible and safe to do so. Provide shielding for venting, rupturing or bursting containers.

Section 6. Accidental Release Measures

Accidental Spill	Small spills: Soak up any spilled liquid with an inert absorbent material and dispose of in an appropriate waste container. Rinse surface reside and flush to sink or sanitary sewer. For large spills due to ruptured containers, eliminate all sources of ignition and ventilate the area with equipment rated for use in flammable environments. Dike, contain and collect liquid and store in metal containers for disposal according to local, state and federal regulations.

Section 7. Handling and Storage

Handling and Storage	WARNING: Flammable. Contents under pressure. Causes eye irritation. Do not spray in eyes, on skin or on clothing. Keep away from heat, sparks and open flame. Do not expose to heat or store at temperatures above 55° C (130° F) as container may burst. Store in original container in cool, dry areas inaccessible to small children. Do not puncture or incinerate container. KEEP OUT OF REACH OF CHILDREN. It is a violation of federal law to use this product in a manner inconsistent with its labeling.

Section 8. Exposure Controls/Personal Protection

Ventilation Requirements	None required under normal use conditions. For occupational situations, use sufficient ventilation to keep hazardous ingredients below their Threshold Limit Values (see Section #2).
Eye Protection	None required under normal use conditions. When handling in large quantities or responding to emergency situations, the use of appropriate eye protection is recommended. Emergency responders should wear full eye and face protection.
Skin Protection	None required under normal use conditions. Emergency responders should wear impermeable gloves.
Respiratory Protection	None required for normal recommended use, avoid prolonged breathing of vapors. A self contained breathing apparatus (SCBA) should be used by emergency responders to avoid inhalation of the vapors which may be generated by this product during spill clean-up or fire situations.
Other Protection	Emergency responders should wear impermeable clothing and footwear when responding to a situation where contact with the liquid is possible.
Work/Hygienic Practices	Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

011320

Continued on Next Page

Section 9. Physical and Chemical Properties

Description	Aerosol container.
pH	10 [Basic.]
Boiling/Condensation Point	Not available.
Specific Gravity	0.835 @ 25°C
Vapor Pressure	95 - 105 psig
Vapor Density	>1 (concentrate)*
Viscosity	Not available.
Solubility	Complete.
Physical Chemical Comments	Not available.

Odor	Various scents. See Section 1.
Color	Clear spray mist.

Section 10. Stability and Reactivity Data

Chemical Stability	The product is stable.
Conditions of Instability	Keep away from heat, sparks and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130°F (55° C) may cause bursting.
Incompatibility with Various Substances	Strong oxidizing agents
azardous Decomposition roducts	Carbon dioxide, carbon monoxide, and unidentified organic compounds may be formed during thermal decomposition.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

Exposure effects

Eye Contact	Causes eye irritation.
Skin Contact	None expected. May cause skin irritation upon prolonged or repeated contact.
Inhalation	None expected.
Ingestion	Ingestion is unlikely through the normal anticipated use of this product. Ingestion of small quantities is not expected to cause any significant adverse effects. Contains denatured ethanol; ingestion may result in ethanol poisoning.
Carcinogenicity	Not listed as carcinogenic by OSHA, NTP or IARC.

Section 12. Ecological Information

Ecotoxicity	Not available.

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Continued on Next Page

Section 13. Disposal Considerations

Waste Disposal	Dispose of in accordance with local, state and federal regulations. Container disposal: Replace cap and discard in trash. Do not puncture or incinerate. Do not reuse empty container.

Section 14. Transport Information

DOT Classification	ORM-D
Proper Shipping Name	Consumer Commodity.
DOT Identification Number	Not applicable
Packing Group	Not applicable
Maritime Transportation	Not applicable.
Hazardous Substances Reportable Quantity	Not applicable.
Special Provisions for Transport	ORM-D: For US Domestic Shipments Only.
TDG Classification	Consumer Commodity - Transborder Consignment.
ADR Classification	Not applicable.
IMDG Classification	Aerosols, class 2.1 UN1950 - Limited Quantity.
IATA Classification	Aerosols, 2.1, UN1950, Limited Quantity.

Section 15. Regulatory Information

Federal and State Regulations	SARA Title III, Section 313 Toxic Chemical Notification & Release Reporting: None California Proposition 65: This product contains the following ingredients which require a warning under the Safe Drinking Water & Toxic Enforcement Act: None
Other Classifications	**WHMIS (Canada)** CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).
New Jersey Right-To-Know Regulation:	NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW ACT: This EPA Registered Product is exempt from the labeling requirements of the above act. N.J.A.C. 8:59-5.5 #1.

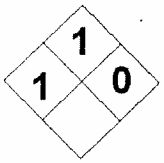
Continued on Next Page

Section 16. Other Information

HMIS (U.S.A.)

Health Hazard	1
Fire Hazard	3
Reactivity	0
Personal Protection	D

National Fire Protection Association (U.S.A.)



Health

Fire Hazard

Reactivity

Specific hazard

NFPA Aerosol Level 1, per NFPA 30B

Validated by Product Safety on 8/8/2002.

Printed 8/9/2002.

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

SOLUTIONS DEPARTMENT
MSDS for MATAR, 0.39%

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I (General Information) SDMATAR.MSD 03/11/05

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: MATAR, 0.39%

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

- Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#
MATAR	0.39	N/A	ECOLAB INC.	61026135
DI-WATER	99.61	7732-18-5	N/A	N/A

4 - Section III - Personal Protective Equipment & Hazard Codes

CHLOTHING	EYEWEAR	GLOVES	RESP.OR FUME HOOD	H	C	R	F
X	X	X		3	2	0	0

SPECIAL HAZARD RATING: CARCINOGEN, CORROSIVE

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 6 MONTHS

902325 MATERIAL SAFETY DATA SHEET: USA

MEDICAL EMERGENCIES ONLY (24 Hour Service): 1-800-328-0026
Medical Calls from Outside of the USA: 1-651-222-5352

Huntington Professional Products Division of Ecolab Inc.
370 Wabasha Street North
St. Paul MN 55102

Product Information: 1-800-332-6522 Issue Date: November 12, 2004

1.0 IDENTIFICATION /

1.1 Product Name: MATAR

1.2 Product Type: Liquid Phenolic Disinfectant - EPA No 303-225

1.3 Hazard Rating: Health: 3 Fire: 0 Reactivity: 0

Substances Subject to SARA 313 Reporting Are Indicated by "#"

2.0 HAZARDOUS COMPONENTS /

		CAS No.	%	(in mg/m3) PEL	TWA
2.1	# Ethylene glycol	107-21-1	7	No	No*
	*ACGIH STEL = 100 mg/m3 C, as aerosol				
2.2	Isopropyl alcohol (2-propanol, IPA)	67-63-0	1-5	980	491*
	*ACGIH STEL = 984				
2.3	Sodium hydroxide (caustic soda)	1310-73-2	2	2	2C
2.4	# o-Phenyl phenol, sodium salt	132-27-4	7	No	No
2.5	o-Benzyl-p-chlorophenol, sodium salt	3184-65-4	5-20	No	No
2.6	Para-tertiary-amyl phenol	80-46-6	1-5	No	No
2.7	Linear alkyl aryl sulfonate	25155-30-0	2	No	No
2.8	Anionic surfactant	68585-47-7	1-5	No	No
2.9	Chelating agents	mixture	1-5	No	No
2.10	Urea	57-13-6	1-5	No	No

STEL = ACGIH short term exp. limit (15 min) PEL = OSHA 8 hr ave in air
TWA = ACGIH 8 hr average C = ceiling limit in air, do not exceed

3.0 PHYSICAL DATA /

3.1 Appearance: Clear, reddish brown liquid; phenolic-like odor
3.2 Solubility in Water: Mixes with water in all proportions
3.3 pH: 12.2 - 13.5 (at 100%)
3.4 Initial Boiling Point: > 212 deg F / 100 deg C
3.5 Specific Gravity: 1.115 @ 68 deg F / 20 deg C

4.0 FIRE AND EXPLOSION DATA /

4.1 Special Fire Hazards: May flash, but does not support combustion.
4.2 Fire Fighting Methods: Use method appropriate for surrounding fire.
4.3 Flash Point: Not determined; IPA flashes at 53 deg F / 12 deg C.

5.0 REACTIVITY DATA /

5.1 Stability: Stable under normal conditions of use and handling.
5.2 Conditions to Avoid: Use only according to label directions. Do not store product below 32 deg F / 0 deg C.

6.0 SPILL OR LEAK PROCEDURES / WEAR PROPER PROTECTIVE EQUIPMENT

6.1 Cleanup: Dike or dam large spills. Pump to containers or soak up on inert absorbent. Flush residue or small spills to sanitary sewer.
6.2 Waste Disposal: Consult state/local authority for limits on chemical waste disposal. Unused product is RCRA corrosive (D002).

MEDICAL EMERGENCY ONLY, 24 HOUR SERVICE: 1-800-328-0026

011325

7.0 HEALTH HAZARD DATA /

DANGER

7.1 Effects of Overexposure to Concentrate:
Eyes: Corrosive. Causes eye damage, possible chemical burns.
Skin: Corrosive. Causes chemical burns. May cause depigmentation. Harmful if absorbed through the skin.
If Swallowed: Harmful. May damage mucosal tissue. Large doses may cause circulatory shock, respiratory depression, convulsion.
If Inhaled: Mists/vapors may cause irritation to respiratory tract. Harmful if inhaled.

7.2 This product contains Sodium o-phenylphenate, which is considered a possible human carcinogen (IARC 2B). Risks from environmental exposur are considered negligible, per chemical manufacturer. This product contains ethylene glycol, which may cause reproductive and/or developmental effects based on animal studies.

8.0 FIRST AID /

8.1 Eyes: Flush at once with cool running water. Remove contact lenses and continue flushing for 15 minutes, holding eyelids apart so as to rinse entire eye. SEEK MEDICAL ATTENTION IMMEDIATELY.

8.2 Skin: Immediately flush skin with plenty of cool running water for at least 15 minutes while removing contaminated clothing and shoes. Discard or wash before reuse.

8.3 If Swallowed: Rinse mouth at once; then drink 1 or 2 large glasses of water. DO NOT induce vomiting. NEVER give anything by mouth to an unconscious person.

8.4 If Inhaled: Immediately move to fresh air.

IMMEDIATELY CALL THE MEDICAL EMERGENCY NUMBER, 1-800-328-0026,
A POISON CONTROL CENTER, OR A PHYSICIAN

9.0 PROTECTIVE MEASURES /

9.1 FOR CONCENTRATE:
Eyes: Wear chemical splash goggles. For continued or severe exposure wear a face shield over the goggles.
Skin: Wear any impervious gloves, other protective equipment as necessary to prevent skin contact.
Respiratory: Avoid breathing mists or vapors of this product.
Note: Provide access to emergency eye wash and shower.

10.0 ADDITIONAL INFORMATION /

10.1 WARNING: This product contains a chemical known to the State of Califo

10.2 Purpose of 11/12/2004 issue: Update section 2, 5, and 9 for editorial updates. Update lines 3.3 and 3.5 for QC updates. Replaces 8/26/2002 issue.

KEEP OUT OF REACH OF CHILDREN

The above information is believed to be correct with respect to the formula used to manufacture the product in the country of origin. As data, standards, and regulations change, and conditions of use and handling are beyond our control, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

011326

ExxonMobil

602912-00 MOBIL SHC 634
MATERIAL SAFETY DATA BULLETIN

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1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: MOBIL SHC 634
SUPPLIER: EXXONMOBIL OIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA 22037

24 - Hour Health and Safety Emergency (call collect): 609-737-4411

24 - Hour Transportation Emergency:
CHEMTREC: 800-424-9300 202-483-7616
LUBES AND FUELS: 281-834-3296

Product and Technical Information:
Lubricants and Specialties: 800-662-4525 800-443-9966
Fuels Products: 800-947-9147
MSDS Fax on Demand: 613-228-1467
MSDS Internet Website: http://emmsds.ihssolutions.com/

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2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: SYN. HYDROCARBONS AND ADDITIVES

GLOBALLY REPORTABLE MSDS INGREDIENTS:

None.

See Section 8 for exposure limits (if applicable).

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3. HAZARDS IDENTIFICATION

Under normal conditions of use, this product is not considered hazardous according to regulatory guidelines (See section 15).

EMERGENCY OVERVIEW: Orange Liquid. DOT ERG No. : NA

POTENTIAL HEALTH EFFECTS: Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin or respiratory irritation.

For further health effects/toxicological data, see Section 11.

---

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water. If irritation occurs, call a physician.

SKIN CONTACT: Wash contact areas with soap and water. Remove and clean oil soaked clothing daily and wash affected area. (See Section 16 - Injection Injury)

INHALATION: Not expected to be a problem. However, if respiratory irritation, dizziness, nausea, or unconsciousness occurs due to excessive vapor or mist exposure, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or mouth-to-mouth resuscitation.

INGESTION: Not expected to be a problem. Seek medical attention if discomfort occurs. Do not induce vomiting.

---

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water or foam may cause frothing. Use water to keep fire exposed containers cool. Water spray may be used to flush spills away from exposure. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None.

COMBUSTION PRODUCTS: Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

Flash Point C(F): > 93(200) (ASTM D-93).

Flammable Limits (approx.% vol.in air) - LEL: 0.9%, UEL: 7.0%

NFPA HAZARD ID: Health: 0, Flammability: 1, Reactivity: 0

---

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills/releases as required to appropriate authorities. U.S. Coast Guard and EPA regulations require immediate reporting of spills/releases that could reach any waterway including intermittent dry creeks. Report spill/release to Coast Guard National Response Center toll free number (800)424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

LAND SPILL: Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping or contain spilled material with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as directed in Section 13.

WATER SPILL: Confine the spill immediately with booms. Warn other ships in the vicinity. Notify port and other relevant authorities. Remove from the surface by skimming or with suitable absorbents. If

permitted by regulatory authorities the use of suitable dispersants should be considered where recommended in local oil spill procedures.

ENVIRONMENTAL PRECAUTIONS: Prevent material from entering sewers, water sources or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation.

PERSONAL PRECAUTIONS: See Section 8

---

7. HANDLING AND STORAGE

HANDLING: No special precautions are necessary beyond normal good hygiene practices. See Section 8 for additional personal protection advice when handling this product.

STORAGE: Keep containers closed when not in use. Do not store in open or unlabelled containers. Store away from strong oxidizing agents and combustible materials. Do not store near heat, sparks, flame or strong oxidants.

SPECIAL PRECAUTIONS: Prevent small spills and leakages to avoid slip hazard.

EMPTY CONTAINER WARNING: Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

---

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

When mists/aerosols can occur, the following are recommended: 5 mg/m3 (as oil mist)- ACGIH Threshold Limit Value (TLV), 10 mg/m3 (as oil mist) - ACGIH Short Term Exposure Limit (STEL), 5 mg/m3 (as oil mist) - OSHA Permissible Exposure Limit (PEL)

VENTILATION: If mists are generated, use adequate ventilation, local exhaust or enclosures to control below exposure limits.

RESPIRATORY PROTECTION: If mists are generated, and/or when ventilation is not adequate, wear approved respirator.

EYE PROTECTION: If eye contact is likely, safety glasses with side shields or chemical type goggles should be worn.

SKIN PROTECTION: Not normally required. When splashing or liquid contact can occur frequently, wear oil resistant gloves and/or other protective clothing. Good personal hygiene practices should always be followed.

---

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet

for specific details.

APPEARANCE: Liquid
COLOR: Orange
ODOR: Mild
ODOR THRESHOLD-ppm: NE
pH: NA
BOILING POINT C(F): > 316(600)
MELTING POINT C(F): NA
FLASH POINT C(F): > 93(200) (ASTM D-93)
FLAMMABILITY (solids): NE
AUTO FLAMMABILITY C(F): NA
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOR PRESSURE-mmHg 20 C: < 0.1
VAPOR DENSITY: > 2.0
EVAPORATION RATE: NE
RELATIVE DENSITY, 15/4 C: 0.86-1
SOLUBILITY IN WATER: Negligible
PARTITION COEFFICIENT: > 3.5
VISCOSITY AT 40 C, cSt: > 20.0
VISCOSITY AT 100 C, cSt: NE
POUR POINT C(F): < -30(-22)
FREEZING POINT C(F): NE
VOLATILE ORGANIC COMPOUND: NE
DMSO EXTRACT, IP-346 (WT.%): <3, for mineral oil only
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

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10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): Stable.
CONDITIONS TO AVOID: Extreme heat and high energy sources of ignition.
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at ambient temperatures.
HAZARDOUS POLYMERIZATION: Will not occur.

---

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
INHALATION TOXICITY (RATS): Practically non-toxic (LC50: greater than 5 mg/l). ---Based on testing of similar products and/or the components.
EYE IRRITATION (RABBITS): Practically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components.
SKIN IRRITATION (RABBITS): Practically non-irritating. (Primary

Irritation Index: greater than 0.5 but less than 3). ---Based on testing of similar products and/or the components.

OTHER ACUTE TOXICITY DATA: Although an acute inhalation study was not performed with this product, a variety of mineral and synthetic oils, such as those in this product, have been tested. These samples had virtually no effect other than a nonspecific inflammatory response in the lung to the aerosolized mineral oil. The presence of additives in other tested formulations (in approximately the same amounts as in the present formulation) did not alter the observed effects.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

No significant adverse effects were found in studies using repeated dermal applications of similar formulations to the skin of laboratory animals for 13 weeks at doses significantly higher than those expected during normal industrial exposure. The animals were evaluated extensively for effects of exposure (hematology, serum chemistry, urinalysis, organ weights, microscopic examination of tissues etc.).

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

No teratogenic effects would be expected from dermal exposure, based on laboratory developmental toxicity studies of major components in this formulation and/or materials of similar composition.

---CHRONIC TOXICOLOGY (SUMMARY)---

Repeated and/or prolonged exposure may cause irritation to the skin, eyes or respiratory tract. Overexposure to oil mist may result in oil droplet deposition and/or granuloma formation. For mineral base oils: Base oils in this product are severely solvent refined and/or severely hydrotreated. Chronic mouse skin painting studies of severely treated oils showed no evidence of carcinogenic effects. These results are confirmed on a continuing basis using various screening methods such as Modified Ames Test, IP-346, and/or other analytical methods. For synthetic base oils: The base oils in this product have been tested in the Ames assay and other tests of mutagenicity with negative results. These base oils are not expected to be carcinogenic with chronic dermal exposures.

---SENSITIZATION (SUMMARY)---

Not expected to be sensitizing based on tests of this product, components, or similar products.

---

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS:

In the absence of specific environmental data for this product, this assessment is based on information for representative products.

ECOTOXICITY: Available ectoxicity data (LL50 >1000 mg/L) indicates that adverse effects to aquatic organisms are not expected from this product.

MOBILITY: When released into the environment, adsorption to sediment and soil will be the predominant behavior.

PERSISTENCE AND DEGRADABILITY: This product is expected to be inherently biodegradable.

BIOACCUMULATIVE POTENTIAL: Bioaccumulation is unlikely due to the very low water solubility of this product, therefore bioavailability to aquatic organisms is minimal.

---

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product is suitable for burning in an enclosed, controlled burner for fuel value. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at an appropriate government waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

RCRA INFORMATION: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrosivity, or reactivity. The unused product is not formulated with substances covered by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

---

14. TRANSPORT INFORMATION

USA DOT: NOT REGULATED BY USA DOT.

RID/ADR: NOT REGULATED BY RID/ADR.

IMO: NOT REGULATED BY IMO.

IATA: NOT REGULATED BY IATA.

STATIC ACCUMULATOR (50 picosiemens or less): YES

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15. REGULATORY INFORMATION

US OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this product is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

EU Labeling: Product is not dangerous as defined by the European Union Dangerous Substances/Preparations Directives. EU labeling not required.

Governmental Inventory Status: All components comply with TSCA, EINECS/ELINCS, and DSL.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

This product contains no chemicals subject to the supplier notification requirements of SARA (313) toxic release program.

THIS PRODUCT HAS BEEN AUTHORIZED BY USDA FOR USE UNDER THE FOLLOWING CATEGORY: This product is acceptable as a lubricant where there is no possibility of food contact (complies with earlier USDA guidelines for H-2 lubricant use).

The following product ingredients are cited on the lists below:

CHEMICAL NAME	CAS NUMBER	LIST CITATIONS
NAPHTHALENE (COMPONENT ANALYSIS) (<0.01%)	91-20-3	16, 22

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5a2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5e	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=NTP SUS	10=OSHA Z	15=TSCA 12b	20=IL RTK	25=PA RTK
				26=RI RTK

Code key: CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive

16. OTHER INFORMATION

USE: LUBRICANT

NOTE: PRODUCTS OF EXXON MOBIL CORPORATION AND ITS AFFILIATED COMPANIES ARE NOT FORMULATED TO CONTAIN PCBS.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for other applications. In any case, the following advice should be considered:

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound

or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

INDUSTRIAL LABEL

Under normal conditions of intended use, this product does not pose a risk to health. Excessive exposure may result in eye, skin or respiratory irritation. Always observe good hygiene measures. First Aid: Wash skin with soap and water. Flush eyes with water. If overcome by fumes or vapor, remove to fresh air. If ingested do not induce vomiting. If symptoms persist seek medical assistance. Read and understand the MSDS before using this product.

****
For Internal Use Only: MHC: 1* 1* 1* 1* 1*, MPPEC: A, TRN: 602912-00, ELIS: 400007, CMCS97: 970321, REQ: US - MARKETING, SAFE USE: L
EHS Approval Date: 04APR2002
****

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. Exxon Mobil Corporation and its affiliated companies assume no responsibility for accuracy of information unless the document is the most current available from an official ExxonMobil distribution system. Exxon Mobil Corporation and its affiliated companies neither represent nor warrant that the format, content or product formulas contained in this document comply with the laws of any other country except the United States of America.

Prepared by: ExxonMobil Oil Corporation
Environmental Health and Safety Department, Clinton, USA

WAXIE SANITARY SUPPLY

Material Safety Data Sheet
OSHA's Hazard Communication Standard
U.S. Department of Labor

29 CFR 1910.1200

OMB No. 1218-0072

Identity # 870040

Name PLEXIGLASS PLUS ANTISTATIC CLEANER/PROTECTANT

Section 1
Manufactured For - Waxie Sanitary Supply
Address - 9353 Waxie Way Emergency Phone (Chem-Tel) 1-(800) 255-3924
City - San Diego State - CA 92123-1036 Phone - (800) 995-4466

Date Prepared- 4/6/2005

Section 2 - Hazardous Ingredients/Identity Information

Hazardous Components	CAS#	OSHA PEL	ACGIH TLV	Weight% (Optional)
Isopropanol	67630	400PPM	400PPM	

Note:

VOC Content- 35 g/L

Section 3 - Physical/Chemical Characteristics

Boiling Point- >212 F
V r Pressure - Not Tested
Density - Not Tested

pH- 6.5-8.0

Solubility In Water- 100%

Specific Gravity- 1.001

Appearance and Odor- OPAQUE WHITE/BLAND ODOR

Melting Point - Not Tested
Evaporation Rate - Not Tested

Section 4 - Fire and Explosion Hazard Data

Flash Point- None

Flammable Limits - Not Tested

LEL- Not Tested

UEL- Not Tested

DOT# NONE

NFPA Hazard Rating -	H	F	R	S	HMIS Hazard Rating -	H	F	R
(0- Least, 4- Extreme)	0	0	0	0		0	0	0

Extinguishing Media- CO2, DRY FOAM

Special Fire Fighting Procedures NONE

Unusual Fire and Explosion Hazards- NONE

Section 5 - Reactivity Data

Stability - Stable
Conditions to Avoid - None

Incompatible Materials to Avoid- Strong Oxidizers, Heat , Flames

I dous Decomposition or Byproducts- CO, CO2
Hazardous Polymerization- NONE

Conditions to Avoid- None

011335

Section 6 - Health Hazard Data

Routes of Entry
Inhalation? - Possible
[illegible] - Possible
Ingestion? - Possible
Health Hazards - Same as Signs and Symptoms of Exposures
Note - All Chemicals in this Product are Found on the TSCA Inventory List.
OSHA Carcinogenicity? - None; NTP? - None; IARC Monographs? - None.

870040

Signs and symptons of over exposure:

Eyes - Burning Sensation

Skin- Not Expected to be a Problem

Ingestion-Nausea

Inhalation- Not Expected To Be A Problem

Medical Conditions Generally Aggravated by Exposure - Same as Signs and Symptoms of Over Exposure.

Emergency and First Aid Procedures

Eyes - Flush With Water For 15 Minutes. If Irritation Persists, Call Physician.

Skin- Wash Off With Soap & Water

Ingestion- Drink Large Amounts of Water, Call Physician

[illegible]ation- Not Expected to be a Problem

Section 7 - Precautions For Safe Handling and Use.
Steps to be taken in case material is released or spilled - Contain with an inert, absorbent material. Collect in an approved container and place in a proper waste disposal container.

Waste Disposal Method - Dispose of in accordance with state and local regulations.
Precautions To Be Taken In Handling and Storing - Store in a cool, dry place, out of direct sunlight. Do not freeze, less than or equal to 32 F, or heat above 110 F.

Other Precautions - Keep out of reach of children. Follow directions on the container for proper use of this product.

Section 8 - Control Measures
Respiratory Protection - Open all doors and windows. "If" there is an exposure, and it is above the TLV or PEL, a NIOSH approved respirator equipped for the exposure or suitable respiratory protection per 29 CRF 1910.134, is required.

Ventilation	Local Exhaust - If Available	Special - None
	Mechanical - If Available	Other - None

Protective Gloves- None

Eye Protection- Glasses, Goggles

Other Protective Clothing or Equipment- None

Hygienic Work Practices - Use common sense and care around chemicals. Never mix chemicals. Consult your supervisor for other practices. All practices depend on your specific business. Directions for use are normally found on label which will dictate engineering and control measures.

Other Special Requirements

Note: Waxie believes the data set forth are accurate, Waxie makes no warranty with respects thereto and disclaims all liability for reliance thereon. Such data are offered solely for consideration, investigation and verification. Also, the data set [illegible]s for the concentrated finished product. All lab samples are for experimental purposes only and used at the customers discretion

MATERIAL SAFETY DATA SHEET

SECTION I - MATERIAL IDENTIFICATION AND USE

Material Name: KENSINGTON SCREEN GUARDIAN #12163D

ACL, Inc.
1960 E. Devon Ave.
Elk Grove Village, IL 60007 U.S.A.

Phone: (847) 981-9212
Fax: (847) 981-9278
Emergency: (800) 332-3073

Chemical Name: Proprietary
Chemical Family: Solvents
Chemical Formula: Proprietary

Molecular Weight: Not Available
Synonym(s): None
Material Use: Cleaner

SECTION II - HAZARDOUS INGREDIENTS

Hazardous Ingredients	Approximate Concentration %	C.A.S., N.A., or U.N. Numbers	Exposure Limits	LD_{50}/LC_{50} (Species and Route)
Butyl Cellusolve	L.T. 2	111 - 76 - 2	50 ppm OSHA/PEL	Guinea pig (dermal) 230 mg/kg

SECTION III - PHYSICAL DATA

Physical State	Liquid	Boiling Point (˚C)	Over 93
Evaporation Rate	Greater than 1 (Water = 1)	Freezing Point (˚C)	Less than 0
Odor Threshold (ppm)	Unknown	Solubility in Water (20˚C)	Miscible
Specific Gravity	1.0	% Volatile (by Volume)	
Vapor Pressure (mm)	20˚C = 18 est.	Coefficient of Water/Oil Distribution	Miscible
Vapor Density (air = 1)	Greater than 2	Density (g/ml)	1.0

Odor & Appearance	Blue liquid with pleasant odor.	pH	7

SECTION IV - FIRE AND EXPLOSION HAZARD

Flammable: Yes X No

Means of Extinction: Not flammable.

Special Procedures: None.

TDG Flammability Classification	Unknown	Sensitivity to Static Discharge	Unknown
Explosion Data (Sensitivity to Chemical Impact)	Unknown	Rate of Burning	Unknown
Auto Ignition Temperature (˚C)	Unknown	Explosive Power	Unknown

Flashpoint (˚C) & Method	Greater than 200 TCC	Upper Explosion Limit (% by Volume)	Unknown	Lower Explosion Limit (% by Volume)	Unknown
Hazardous Combustion Products	Carbon Oxides				

SECTION V - REACTIVITY DATA

Chemical Stability: Yes.

Incompatibility to Other Substances: No.

Reactivity and Under What Conditions: Unknown

Hazardous Decomposition Products: Unknown.

Material Name: KENSINGTON SCREEN GUARDIAN #12163

SECTION VI - TOXICOLOGICAL PROPERTIES OF PRODUCT

Route of Entry: Skin Contact Skin Absorption X Eye Contact Inhalation Acute Inhalation Chronic X Ingestion

Effects of Acute Exposure to Product: Solution irritate eyes and skin. May be harmful and fatal if swallowed.

Effects of Chronic Exposure to Product: Unknown.

Synergistic Materials	Unknown	LD_{50} of Product (Species and Route)	Unknown
Exposure Limits	Unknown	LC_{50} of Product (Species and Route)	Unknown

Irritancy	Non-irritating under normal usage.	Sensitization	Unknown

Carcinogenicity Reproductive Effects Teratogenicity Mutagenicity

Effects of above are unknown.

SECTION VII - PREVENTIVE MEASURES

Personal Protective Equipment: With proper usage, none is required.

Gloves	None	Footwear	None
Respiratory	None	Clothing	None
Eye	Glasses	Other	None

Engineering Controls: Normal room ventilation.

Leak and Spill Procedure: Small amounts may be rinsed away with water to sewer or mopped up.

Waste Disposal: Rinse into sewer with copious amounts of water or dispose of in landfill.

Handling Procedures and Equipment: No special requirements.

Storage Requirements: Store in cool, dry place out of direct sun.

Special Shipping Information: None required. Material is not regulated by D.O.T.

SECTION VIII - FIRST AID MEASURES

Skin: Flush with water, wash with soap.

Eye: Wash with water. Contact a physician if necessary.

Inhalation: Remove to fresh air and contact a physician if necessary.

Ingestion: Drink copious amounts of water/milk and contact physician.

General Advice: Do not smoke while using, keep away from children, wash hands after using.

SECTION IX - PREPARATION OF M.S.D.S.

Flammability	0
Reactivity	0
Health	1
Other	0

Additional Information/Comments: est. = estimate TCC = Tag Closed Cup L.T. = Less Than

Sources Used: "Hazardous Products Act" - SOR/88-64
"Dangerous Properties of Industrial Materials" - Sax

Prepared By: ACL, Inc.

Phone Number: 847-981-9212

Original Release Date: 8/13/91

Revision Date: 5/01/2002

MSDS - Material Safety Data Sheet

Product Name: HEAVY DUTY SILICONE SPRAY LUBRICANT

MSDS No.: M914

I. Basic Information:

Manufacturer: RADIATOR SPECIALTY COMPANY

Address: 600 RADIATOR ROAD

City, ST Zip: INDIAN TRAIL, NC 28079

Emergency Contact: Rocky Mountain Poision Control Center

Emergency Telephone Number: 303-623-5716

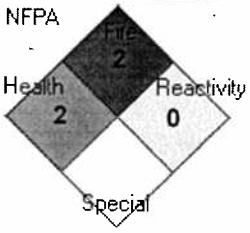
Contact: Robert Geer

Information Telephone Number: 704-688-3430

Last Update: 04/28/2005

Chemical State: [X] Liquid [ ] Gas [ ] Solid

Chemical Type: [ ] Pure [X] Mixture



2	Health
2	Flammability
0	Reactivity
A	Pers. Protection

II. Ingredients:

[ ] **Trade Secret**

CAS No.	Chemical Name	% Range	EHS	NTP	IARC	SUB Z	SARA 313	OSHA PEL	ACGIH TLV	Other Limits
111762	2-Butoxyethanol	1-2					X	25 ppm	25 ppm	
8052413	Aliphatic Hydrocarbon Solvent	40.0 - 70.0						100 ppm	100 ppm	
124389	Carbon dioxide	3.0 - 4.0						N/AV	5000 ppm	
63148629	Dimethyl Polysiloxane	6-7						N/E	N/E	
64742525	Naphthenic Petroleum Distillate	2-3						5 mg/m3	5 mg/m3	
64742467	Petroleum Distillate, Hydrotreated Middle	15.0 - 40.0						5 mg/m3 (m	5 mg/m3 (m	

III. Hazardous Identification:

Hazard Category:

[X] Acute [ ] Chronic [X] Fire [X] Pressure [ ] Reactive

Hazardous Identification Information:

Flammable. Harmful or fatal if swallowed. Eye and Skin Irritant. Contents under Pressure.

Level 3 Aerosol

IV. First Aid Measures:

Route(s) of Entry:

Absorption, Eye, Inhalation, and Ingestion.

Health Hazards (Acute and Chronic):

See Signs and Symptoms below

Signs and Symptoms:

Eye Contact: Irritant. Prolonged contact may cause conjunctivitis.
Skin Contact: Irritant. Defatting of tissue, dermatitis may occur.
Inhalation: Irritant to mucous membranes. Repeated exposure may cause narcosis..
Ingestion: HARMFUL OR FATAL IF SWALLOWED.

Medical Conditions Generally Aggravated by Exposure:

N/D

MSDS - Material Safety Data Sheet
Product Name: HEAVY DUTY SILICONE SPRAY LUBRICANT

MSDS No.: M914

Emergency and First Aid Procedures:

Eye Contact: Flush eyes with clean water for 15 minutes while lifting eyelids. Get prompt medical attention.
Skin Contact: Wash with soap and water thoroughly. If adverse effects persist, get prompt medical attention. Launder contaminated clothing before reuse.
Inhalation: Remove to fresh air. If breathing becomes difficult give oxygen and get prompt medical attention. If breathing stops, give artificial respiration and get prompt medical attention.
Ingestion: DO NOT INDUCE VOMITING! Call Poison Control Center, physician, or hospital emergency room immediately. Aspiration of vomitus into the lungs can cause pneumonitis, which can be fatal.

Other Health Warnings:

Vomiting and subsequent aspiration into the lungs may lead to chemical pneumonia and pulmonary edema which is a potentially fatal condition.

V. Fire Fighting Measures:

Flash Point: 125°F **Lower Explosive Limit:** N/D **Upper Explosive Limit:** N/D

F.P. Method: TCC

Fire Extinguishing Media: Water Fog, Foam, Carbon Dioxide, Dry Chemical

Special Fire Fighting Procedures:

Wear self-contained positive pressure breathing apparatus and protective clothes. Cool containers with a water fog. Do not use forced water stream as this could cause the fire to spread. Use shield to protect from rupturing and venting containers.

Unusual Fire and Explosion:

At elevated temperatures containers may vent, rupture or burst, even violently.

VI. Accidental Release Measures:

Steps to be Taken in Case Material is Released or Spilled:

Eliminate all ignition sources. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Dike or contain spill and absorb with inert materials (sand, sawdust, absorbent sweeping compounds, rags, etc). Using a non-metalic scoop, place contaminated material into an approved chemical waste container. Where possible, vacuum spilled liquid using an explosion proof vacuum to recover material. Prevent run-off to sewers, streams, or other bodies of water. If run-off occurs, notify proper authorities as required that a spill has occured.

VII. Handling and Storage:

Precautions to be Taken:

Use with adequate ventilation and proper protective equipment.
Store in cool, well ventilated area below 120°F away from heat sources. Do not use near fire, sparks, or open flame. Exposure to temperatures above 120° may cause container to vent, rupture, or burst. Do not puncture or incinerate container.

Other Precautions:

Flammable. Store in cool place away from oxidizers and acids.

VIII. Exposure Controls/Personal Protection:

Ventilation Requirements:

See Section 2 for applicable exposure limits. Use with adequate ventilation. If TLV is exceeded, wear NIOSH approved respirator.

Personal Protective Equipment:

See Section 2 for applicable exposure limits. For prolonged exposure wear protective safety glasses, gloves, and apron.

MSDS - Material Safety Data Sheet
Product Name: HEAVY DUTY SILICONE SPRAY LUBRICANT

MSDS No.: M914

IX. Physical and Chemical Properties:

Boiling Point: 310°F

Melting Point: N/A

Evaporation Rate (Butyl Acetate = 1): N/D

Vapor Pressure (mm Hg.): N/D

Specific Gravity (H20 = 1): 0.80200

Vapor Density (AIR = 1): N/D

Solubility In Water: Insoluble

Appearance and Odor: Clear to slight yellow liquid with petroleum odor.

Other Information: N/D

X. Stability and Reactivity:

Stability:

Stable

Incompatibility (Materials to Avoid):

Oxidizing agents and acids.

Decomposition/By Products:

Normal products of combustion, carbon dioxide, smoke and Nitrogen and Sulfur Oxides

Hazardous Polymerization:

Will not occur

XI. Toxicological Information:

N/D

XII. Ecological Information:

N/D

XIII. Disposal Considerations:

DISPOSAL: This container may be recycled in a recycling centers when empty. Before offering for recycling, empty the can or bottle by using the product according to the label. If recycling is not available, wrap the container and discard in the trash. Dispose of unused product in accordance with all local, state government and federal laws and regulations

XIV. Transport Information:

DOT Hazard Class: ORM-D
Shipping Name: Consumer Commodity

XV. Regulatory Information:

See Section 2 for SARA Reportable Chemicals.

USA TSCA: All components of this material are listed on the US TSCA Inventory.

Warning: This product contains a chemical(s) known to the State of California to cause cancer or birth defects or other reproductive harm.

XVI. Other Information:

MSDS - Material Safety Data Sheet

Product Name: HEAVY DUTY SILICONE SPRAY LUBRICANT

MSDS No.: M914

Do not used in confined area without proper ventilation. Contact lenses may cause further damage in case of splash into eye. KEEP AWAY FROM CHILDREN AND ANIMALS!

N/E: Not Established
N/D: Not Determined
N/A: Not Applicable
N/AV: Not Available

While Radiator Specialty Company believes this data is accurate as of the revision date, we make no warranty with respect to the data and we expressly disclaim all liability for reliance thereon. The data is offered soley for information, investigation, and verification. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this MSDS. The user is repsonsible for full compliance.

SOLUTIONS DEPARTMENT
MSDS for SODIUM HYDROXIDE 1N

1 - Site Specific Information

ROOM TEMPERATURE

2 - Section I - General Information

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: SODIUM HYDROXIDE, 1N

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

- Section II - Hazardous Ingredients

MATERIAL	%	CAS#	MANUFACTURER	CAT#/PROD#
SODIUM HYDROXIDE	4.0	1310-73-2	SPECTRUM	S1295
DI-WATER	96.0	7732-18-5	N/A	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	3	3	2	0

SPECIAL HAZARD RATING: CORROSIVE, TOXIC

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

SPECTRUM®

GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
3 0 1	Health Hazard 3 Fire Hazard 0 Reactivity 2	See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Sodium hydroxide, Pellets, Reagent ACS**	Catalog Number(s).	S1295
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS#	1310-73-2
		RTECS	WB4900000
		TSCA	TSCA 8(b) inventory: Sodium hydroxide
Commercial Name(s)	Not available.	CI#	Not available.
Synonym	Caustic Soda		
Chemical Name	Sodium Hydroxide		
Chemical Family	Not available.		
Chemical Formula	NaOH		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m³)	STEL (mg/m³)	CEIL (mg/m³)	% by Weight
1) Sodium hydroxide	1310-73-2			2	100

Toxicological Data on Ingredients

Sodium hydroxide
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

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Potential Chronic Health Effects	**CARCINOGENIC EFFECTS**: Not available. **MUTAGENIC EFFECTS**: Not available. **TERATOGENIC EFFECTS**: Not available. **DEVELOPMENTAL TOXICITY**: Not available. The substance is toxic to lungs. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	of metals
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	sodium hydroxide + zinc metal dust causes ignition of the latter. Under proper conditions of temperature, pressure and state of division, it can ignite or react violently with acetaldehyde, ally alcohol, allyl chloride, benzene-1,4-diol, chlorine trifluoride, 1,2 dichlorethylene, nitroethane, nitromethane, nitroparaffins, nitropropane, cinnamaldehyde, 2,2-dichloro-3,3-dimethylbutane. Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials. Phosphorous boiled with NaOH yields mixed phosphines which may ignite spontanously in air. sodium hydroxide and cinnamaldehyde + heat may cause ignition. Reaction with certain metals releases flammable and explosive hydrogen gas.

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Special Remarks on Explosion Hazards	Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate. Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aquesous sodium hydroxide, under vacuum distillation, residue darkened and exploded. Sodium Hydroxde + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions. Dry mixtures of sodium hydroxide and sodium tetrahydroborate liberate hydrogen explosively at 230-270 deg. C. Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: **Neutralize the residue with a dilute solution of acetic acid.**
Large Spill	Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of acetic acid.** Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep container dry. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, metals, acids, alkalis, moisture.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	CEIL: 2 from ACGIH (TLV) [United States] [1995] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid.	**Odor**	Odorless.
Molecular Weight	40 g/mole	**Taste**	Not available.
pH (1% soln/water)	13.5 [Basic.]	**Color**	White.
Boiling Point	1388°C (2530.4°F)		
Melting Point	323°C (613.4°F)		
Critical Temperature	Not available.		
Specific Gravity	2.13 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		

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Water/Oil Dist. Coeff.	Not available.
Ionicity (in Water)	Not available.
Dispersion Properties	See solubility in water.
Solubility	Easily soluble in cold water.

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Not available.
Incompatibility with various substances	Highly reactive with metals. Reactive with oxidizing agents, reducing agents, acids, alkalis, moisture.
Corrosivity	Not available.
Special Remarks on Reactivity	Hygroscopic. Much heat is evolved when solid material is dissolved in water. Therefore cold water and caution must be used for this process. Sodium hydroxide solution and octanol + diborane during a work-up of a reaction mixture of oxime and diborane in tetrahyrofuran is very exothermic, a mild explosion being noted on one occassion. Reactive with water, acids, acid chlorides, strong bases, strong oxidizing agents, strong reducing agents, flammable liquids, organic halogens, metals (i.e aluminum, tin, zinc), nitromethane, glacial acetic acid, acetic anhydride, acrolein, chlorohydrin, chlorosulfonic acid, ethylene cyanohydrin, glyoxal, hydrochloric acid, sulfuric acid, hydrosulfuric acid, nitric acid, oleum, propiolactone, acylonitrile, phorosous pentoxide, chloroethanol, chloroform-methanol, tetrahydroborate, cyanogen azide, 1,2,4,5 tetrachlorobenzene, cinnamaldehyde. Reacts with formaldehyde hydroxide to yield formic acid, and hydrogen.
Special Remarks on Corrosivity	Very caustic to aluminum and other metals in presence of moisture.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Causes damage to the following organs: lungs.
Other Toxic Effects on Humans	Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (corrosive), of ingestion, .
Special Remarks on Toxicity to Animals	Lowest Published Lethal Dose: LDL [Rabbit] - Route: Oral; Dose: 500 mg/kg
Special Remarks on Chronic Effects on Humans	May affect genetic material (mutagenic). Investigation as a mutagen (cytogenetic analysis), but no data available.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May be harmful if absorbed through skin. Causes severe skin irritation and burns. May cause deep penetrating ulcers of the skin. Eyes: Causes severe eye irritation and burns. May cause chemical conjunctivitis and corneal damage. Inhalation: Harmful if inhaled. Causes severe irritation of the respiratory tract and mucous membranes with coughing, burns, breathing difficulty, and possible coma. Irritation may lead the chemical pneumonitis and pulmonary edema. Causes chemical burns to the respiratory tract and mucous membranes. Ingestion: May be fatal if swallowed. May cause severe and permanent damage to the digestive tract. Causes severe gastrointestinal tract irritation and burns. May cause perforation of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause corrosion and permanent destruction of the esophagus and digestive tract.

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Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	Class 8: Corrosive material
Identification	: Sodium hydroxide, solid UNNA: 1823 PG: II
Special Provisions for Transport	Not available.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	Illinois toxic substances disclosure to employee act: Sodium hydroxide Illinois chemical safety act: Sodium hydroxide New York release reporting list: Sodium hydroxide Rhode Island RTK hazardous substances: Sodium hydroxide Pennsylvania RTK: Sodium hydroxide Minnesota: Sodium hydroxide Massachusetts RTK: Sodium hydroxide New Jersey: Sodium hydroxide Louisiana spill reporting: Sodium hydroxide California Director's List of Hazardous Substances: Sodium hydroxide TSCA 8(b) inventory: Sodium hydroxide CERCLA: Hazardous substances.: Sodium hydroxide: 1000 lbs. (453.6 kg)
California Proposition 65 Warnings	
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
Other Classifications	WHMIS (Canada) CLASS E: Corrosive solid.
	DSCL (EEC)

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R35- Causes severe burns.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28- After contact with skin, wash immediately with plenty of [***]
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S38- In case of insufficient ventilation, wear suitable respiratory equipment.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.)

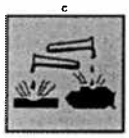
Health Hazard	3
Fire Hazard	0
Reactivity	2
Personal Protection	j

National Fire Protection Association (U.S.A.)

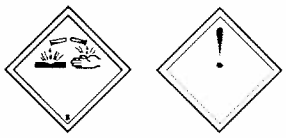
Health
Flammability
Reactivity
Specific hazard

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)



ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Synthetic apron.

Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

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Section 16. Other Information

MSDS Code	S4101
References	Not available.
Other Special Considerations	Not available.

Validated by Sonia Owen on 11/4/2003.	Verified by Sonia Owen. Printed 8/26/2004.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.

SOFTCIDE HAND WASH

STAHMER WESTON SCIENTIFIC

Revised: 3/1/2000

CRC Chemicals

Revised: 1/12/2002

MSDS **Material Safety Data Sheet**

011352

MATERIAL SAFETY DATA SHEET

MAY BE USED TO COMPLY WITH OSHA'S HAZARD COMMUNICATION STANDARD
29 CFR 1910.1200. STANDARD MUST BE CONSULTED FOR SPECIFIC REQUIREMENTS.

U.S. DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
(NON-MANDATORY FORM)
FORM APPROVED
OMB NO.1218-0072

FORMS PUBLISHED BY WINDOWCHEM (707)864-0646

NOTE: BLANK SPACES ARE NOT PERMITTED. IF ANY ITEM IS NOT APPLICABLE, OR NO INFORMATION IS AVAILABLE, THE SPACE MUST BE MARKED TO INDICATE THAT.

SECTION I - GENERAL INFORMATION

IDENTITY: SOFTCIDE HAND WASH

MANUFACTURER'S NAME:
ERIE SCIENTIFIC CO
STAHMER WESTON SCIENTIFIC

ADDRESS(NUMBER, STREET, CITY, STATE, AND ZIP CODE):
20 POST ROAD
PORTSMOUTH INDUSTRIAL PARK
PORTSMOUTH NH 03801

EMERGENCY TELEPHONE NUMBER:
800-424-9300

TELEPHONE NUMBER FOR INFORMATION:
603-431-8410

DATE PREPARED: 06/24/98 REVISED 3/1/00

SIGNATURE OF PREPARER (OPTIONAL):
JOEL SADLER

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY

HAZARDOUS COMPONENTS (SPECIFIC CHEMICAL IDENTITY; NAME)	OSHA PEL	ACGIH TLV	CAS#	%(OPTIONAL)
PARACHLOROMETAXYLENOL	NE	NE	88-04-0	1%

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: 100C

SPECIFIC GRAVITY(H2O=1): 1.0402

MELTING POINT: NA

EVAPORATION RATE(BUTYL ACETATE=1): NA

VAPOR DENSITY (AIR = 1): NA

SOLUBILITY IN WATER: COMPLETE

VAPOR PRESSURE(MM HG): NA

APPEARANCE AND ODOR: VISCOUS PEARLESCENT LIQUID

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED): NA

FLAMMABLE LIMITS: NA

EXTINGUISHING MEDIA: WATER

SPECIAL FIRE FIGHTING PROCEDURES: NA

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

SECTION V - REACTIVITY DATA

STABILITY: STABLE

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: NONE KNOWN

CONDITIONS TO AVOID: NA

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VI - HEALTH HAZARD DATA

ROUTE(S) OF ENTRY: INGESTION, EYES

HEALTH HAZARDS (ACUTE AND CHRONIC): NON-TOXIC

CARCINOGENICITY?: NO
NTP? NO
IARC MONOGRAPHS? NO
OSHA REGULATED? NO

SIGNS AND SYMPTOMS OF EXPOSURE: NA

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NA

EMERGENCY AND FIRST AID PROCEDURE:

EYE CONTACT: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR 15 MINUTES.

INGESTION:
IF SWALLOWED, DRINK LARGE QUANTITIES OF MILK, EGG WHITES, OR IF NOT AVAILABLE, DRINK LARGE QUANTITIES OF WATER. SEEK MEDICAL ATTENTION.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

FLUSH WITH WATER TO SEWER. THIS PRODUCT IS BIODEGRADABLE.

WASTE DISPOSAL METHOD:
DISPOSE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: NA

OTHER PRECAUTIONS: NA

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: NA

VENTILATION: LOCAL EXHAUST, MECHANICAL(GENERAL) - NORMALLY ADEQUATE

PROTECTIVE GLOVES: NA

EYE PROTECTION: NA

OTHER PROTECTIVE EQUIPMENT: NA

WORK/HYGIENIC PRACTICES: NA

NOTE: NA - NOT APPLICABLE, ND - NOT DETERMINED, NE - NOT ESTABLISHED

GRAINGER
FOR THE ONES WHO GET IT DONE

[X] Close this window

Common Name: TFE PIPE THREAD SEALER WITH TEFLON
Manufacturer: ANTI-SEIZE TECHNOLOGY
MSDS Revision Date: 4/15/2002

Grainger Item Number(s): 4UJ90, 4X222, 5X998
Manufacturer Model Number(s): 14003, 14012, 14018

MSDS Table of Contents

Click the desired link below to jump directly to that section in the MSDS.

SECTION I - PRODUCT IDENTIFICATION
SECTION II - COMPOSITION
SECTION III - PHYSICAL PROPERTIES
SECTION IV - FIRE AND EXPLOSION DATA
SECTION V - PHYSICAL HAZARDS
SECTION VI - HEALTH HAZARDS AND FIRST AID
SECTION VII - SPECIAL PRECAUTIONS AND SPILL PROCEDURES
SECTION VIII - SPECIAL PROTECTION INFORMATION
SECTION IX - REGULATORY INFORMATION
SECTION X - DISCLAIMER

A

ANTI-SEIZE TECHNOLOGY
A.S.T. INDUSTRIES, INC.

H.M.I.S.:
H 1
F 0
R 0
P.P.

TFE(TM) PIPE THREAD SEALER WITH "TEFLON"

STOCK # ('S):
14002, 14003, 14005, 14012, 14016, 14018, 14025, 14026, 14030, 14050, 14055, 14008

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION

011356

MANUFACTURE:
ANTI-SEIZE TECHNOLOGY
2345 N. 17TH. AVE.
FRANKLIN PARK, IL. 60131

TELEPHONE #: 847-455-2300

24 HOUR EMERGENCY #:
INFOTRAC: 1-800-535-5053

SECTION II - COMPOSITION

COMPOSITION	CAS#	OSHA PEL	TLV	SARA	PROP	PERCENT
				III	65	
PETROLEUM OIL, AS MIST OR FUME	8042-47-5	5 MG/M3	5 MG/M3	NO	NO	20-30
TITANIUM DIOXIDE	13463-67-7	15 MG/M3	10 MG/M3	NO	NO	1-5
CALCIUM CARBONATE	471-34-1	10 MG/M3	10 MG/M3	NO	NO	5-20
PTFE	9002-84-0	15 MG/M3	15 MG/M3	NO	NO	10-30

SECTION III - PHYSICAL PROPERTIES

BOILING POINT: DOES NOT APPLY

SOLUBILITY IN WATER: NIL

MELTING POINT: DOES NOT APPLY

REACTIVITY IN WATER: NONE

VAPOR PRESSURE: NO DATA

SPECIFIC GRAVITY: 1.2

EVAPORATION RATE: 0

PERCENT VOLATILE: 0

V.O.C. CONTENT: 0

APPEARANCE AND ODOR: OFF WHITE GRANULAR PASTE WITH A PETROLEUM LIKE ODOR

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT AND METHOD USED: GREATER THAN 350 F, C.O.C.

FLAMMABLE LIMITS:

LEL: NO DATA
UEL: NO DATA

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES:
THIS COMPOUND WILL NOT BURN UNLESS IT IS PRE-HEATED. WATER FOG MAY BE USED TO COOL THE CONTAINERS BUT DO NOT SPRAY DIRECTLY INTO LARGE CONTAINERS OF BURNING LIQUIDS AS FROTHING MAY OCCUR WEAR A "N.I.O.S.H." APPROVED ORGANIC VAPOR RESPIRATOR.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
DENSE SMOKE AND NOXIOUS OR TOXIC FUMES MAY BE GENERATED IN A FIRE. FIRE FIGHTERS SHOULD WEAR A SELF CONTAINED BREATHING APPARATUS.

SECTION V - PHYSICAL HAZARDS

STABILITY:
(X) STABLE
( ) UNSTABLE

CONDITIONS TO AVOID:
STRONG OXIDIZING AGENTS AND TEMPERATURES EXCEEDING 550 F.

INCOMPATIBILITY:
STRONG ACIDS SUCH AS HYDROCHLORIC, SULFURIC, NITRIC, CHLORINE, ETC.

HAZARDOUS DECOMPOSITION PRODUCTS:
THE THERMAL DECOMPOSITION PRODUCTS ARE HIGHLY DEPENDENT UPON THE COMBUSTION CONDITIONS. NOXIOUS OR TOXIC FUMES MAY BE GENERATED, SOME OF WHICH MAY BE TOXIC OR IRRITATING.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION VI - HEALTH HAZARDS AND FIRST AID

ROUTES OF ENTRY:
(X) SKIN
( ) EYES
( ) INHALATION
(X) INGESTION

HEALTH HAZARDS:
THIS PRODUCT IS CONSIDERED VERY MILDLY IRRITATING TO THE SKIN. SYMPTOMS COULD INCLUDE SKIN REDNESS OR IRRITATION IF PROLONGED SKIN CONTACT OCCURS.

THIS PRODUCT CONTAINS "TEFLON" WHICH HAS BEEN KNOWN TO PRODUCE A CONDITION KNOWN AS POLYMER FUME FEVER IF GOTTEN ONTO TOBACCO PRODUCTS WHILE SMOKING. DO NOT SMOKE WHILE USING THIS MATERIAL.

EMERGENCY FIRST AID PROCEDURES:

SKIN:
WASH WITH SOAP AND WATER. USING A NAIL BRUSH. PAY PARTICULAR ATTENTION TO FINGER NAILS AND OPEN WOUNDS.

EYES:
THIS PRODUCT COULD CAUSE SOME MECHANICAL IRRITATION IF GOTTEN INTO THE EYES AND RUBBED. FLUSH EYE WITH WATER FOR 15 MINUTES, LIFTING THE EYELIDS. IF IRRITATION PERSISTS CONSULT A PHYSICIAN.

INGESTION:
IF INGESTED THIS PRODUCT IS NOT EXPECTED TO CAUSE AN ACUTE REACTION, AND IS RELATIVELY NON-TOXIC. THIS PRODUCT CONTAINS A PETROLEUM OIL, DO NOT INDUCE VOMITING, BECAUSE THE OIL MAY BE ASPIRATED INTO THE LUNGS. USE A GASTRIC LAVAGE, AND CALL A POISON CONTROL CENTER OR A PHYSICIAN.

INHALATION:
NOT LIKELY UNDER NORMAL CONDITIONS OF USE. IF USING IN HIGH TEMPERATURE APPLICATIONS WHERE THERMAL DECOMPOSITION IS LIKELY. USE A LOCAL EXHAUST TO REMOVE FUMES. IF DIZZINESS OR IRRITATION OCCURS. SEEK FRESH AIR.

CHEMICAL('S) LISTED AS CARCINOGENS:
NTP?: NO
I.A.R.C.?: NO
OSHA?: NO

SECTION VII - SPECIAL PRECAUTIONS AND SPILL PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
STORE AWAY FROM STRONG OXIDIZING CHEMICALS AND ACIDS.

OTHER PRECAUTIONS:
DO NOT TRANSFER TO UNMARKED CONTAINERS. KEEP AWAY FROM CHILDREN.

SPILL/LEAKAGE PROCEDURES:
BECAUSE OF THE VISCOUS NATURE OF THIS PRODUCTS LEAKS ARE NOT EXPECTED. IF SPILLED SCOOP BACK INTO ORIGINAL CONTAINER

WASTE DISPOSAL:
FOLLOW LOCAL, STATE AND FEDERAL GUIDELINES. DISPOSE OF IN A RESPONSIBLE MANNER. INCINERATION IS THE PREFERRED METHOD OF DISPOSAL, ALTHOUGH IT CAN BE LANDFILLED AT AN APPROVED FACILITY.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NORMALLY NOT REQUIRED.

PROTECTIVE GLOVES:
NORMALLY NOT REQUIRED. IF PROLONGED OR REPEATED SKIN CONTACT IS EXPECTED OR IF OPEN WOUNDS ARE PRESENT USE A LATEX GLOVE

EYE PROTECTION: SAFETY GLASSES ARE RECOMMENDED

WORK/HYGIENIC PRACTICES:
USE GOOD STANDARD PRACTICES WHEN USING THIS MATERIAL. DO NOT EAT OR SMOKE WHILE USING, AND THOROUGHLY WASH WITH SOAP AND WATER, USING A NAIL BRUSH AFTER USING.

SECTION IX - REGULATORY INFORMATION

CALIFORNIA PROPOSITION 65: NO

RCRA: NO

OZONE DEPLETING SUBSTANCES: NONE

DOT SHIPPING CLASS: NOT HAZARDOUS

SARA TITLE III: NO

TASCA INVENTORY: ALL INGREDIENTS LISTED

CERCLA: NO

N.F.P.A. RATING:
H 1
F 0
R 0

SECTION X - DISCLAIMER

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THE DATA OR THE RESULTS OBTAINED FROM THE USE OF THIS PRODUCT. THEREFORE, BECAUSE THE PRODUCT MAY BE USED UNDER CONDITIONS BEYOND OUR CONTROL, WE ASSUME NO LIABILITY FOR IT'S USE.

DATE PREPARED: 4/15/02

WD-40®

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Manufacturer:	WD-40 Company	Telephone:	
		Emergency only:	1-(800) 424-9300 (CHEMTREC)
Address:	1061 Cudahy Place (92110)	Information:	(619) 275-1400
	P.O. Box 80607	Chemical Name:	Organic Mixture
	San Diego, California	Trade Name:	WD-40 Aerosol
	92138-0607		

II. HAZARDOUS INGREDIENTS

Chemical Name	CAS Number	%	Exposure Limit ACGIH/OSHA
Aliphatic Petroleum Distillates	8052-41-3	45-50	100 ppm PEL
Petroleum Base Oil	64742-65-0	15-25	5 mg/M^3 TWA (mist)
LVP Hydrocarbon Fluid	64742-47-8	12-18	1200 mg/M^3 TWA
Carbon Dioxide	124-38-9	2-3	5000 ppm PEL
Non-hazardous Ingredients		< 10	

III. PHYSICAL DATA

Boiling Point:	323°F (minimum)	Evaporation Rate:	Not determined
Vapor Density (air=1):	Greater than 1	Vapor Pressure:	110 ±5 PSI @ 70°F
Solubility in Water:	insoluble	Appearance:	Light amber
Specific Gravity (H_2O=1):	0.817 @ 72°F	Odor:	Characteristic odor
'ercent Volatile (volume):	74%	VOC:	412 grams/liter (49.5%)

IV. FIRE AND EXPLOSION

Flash Point:	131°F Tag Closed Cup
Flammable Limits:	(Solvent Portion) [Lel] 1.0% [Uel] 6.0%
Extinguishing Media:	CO_2, Dry Chemical, Foam.
Special Fire Fighting Procedures:	Contents Under Pressure
Unusual Fire and Explosion Hazards:	FLAMMABLE - U.F.C. level 3 AEROSOL

V. HEALTH HAZARD / ROUTE(S) OF ENTRY

Threshold Limit Value — Aliphatic Petroleum Distillates (Stoddard Solvent) lowest TLV (ACGIH 100 ppm.)

Symptoms of Overexposure

- **Inhalation (Breathing):** May cause anesthesia, headache, dizziness, nausea and upper respiratory irritation.
- **Skin contact:** May cause drying of skin and/or irritation.
- **Eye contact:** May cause irritation, tearing and redness.
- **Ingestion (Swallowed):** May caused irritation, nausea, vomiting and diarrhea.

First Aid Emergency Procedures

- **Ingestion (Swallowed):** Do not induce vomiting, seek medical attention.
- **Eye Contact:** Immediately flush eyes with large amounts of water for 15 minutes.
- **Skin Contact:** Wash with soap and water.
- **Inhalation (Breathing):** Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen.

Pre-existing medical conditions such as eye, skin and respiratory disorders may be aggravated by exposure.

DANGER!

Aspiration Hazard: If swallowed, can enter lungs and may cause chemical pneumonitis. Do not induce vomiting. Call Physician immediately.

Suspected Cancer Agent
Yes___ No_X_

The components in this mixture have been found to be noncarcinogenic by NTP, IARC and OSHA

011361

VI. REACTIVITY DATA

Stability:	Stable X	Unstable____
Conditions to avoid:	NA	
Incompatibility:	Strong oxidizing agents	
Hazardous decomposition products:	Thermal decomposition may yield carbon monoxide and/or carbon dioxide.	
Hazardous polymerization:	May occur ____	Will not occur X

VII. SPILL OR LEAK PROCEDURES

Spill Response Procedures

Spill unlikely from aerosol cans. Leaking cans should be placed in plastic bag or open pail until pressure has dissipated.

Waste Disposal Method

Empty aerosol cans should not be punctured or incinerated; bury in land fill. Liquid should be incinerated or buried in land fill. Dispose of in accordance with local, state and federal regulations.

VIII. SPECIAL HANDLING INFORMATION

Ventilation:	Sufficient to keep solvent vapor less than TLV.
Respiratory Protection:	Advised when concentrations exceed TLV.
Protective Gloves:	Advised to prevent possible skin irritation.
Eye Protection:	Approved eye protections to safeguard against potential eye contact, irritation or injury.
Other Protective Equipment:	None required.

IX. SPECIAL PRECAUTIONS

Keep from sources of ignition. Avoid excessive inhalation of spray particles, do not take internally. Do not puncture, incinerate or store container above 120°F. Exposure to heat may cause bursting. Keep can away from electrical current or battery terminals. Electrical arcing can cause burn-through (puncture) which may result in flash fire, causing serious injury. Keep from children.

X. TRANSPORTATION DATA (49 CFR 172.101)

Domestic Surface

Description:	Consumer Commodity
Hazard Class:	ORM-D
ID No:	None
Label Required:	Consumer commodity (ORM-D)

XI. REGULATORY INFORMATION

All ingredients for this product are listed on the TSCA inventory.

SARA Title III chemicals:	None
California Prop 65 chemicals:	None
CERCLA reportable quantity:	None
RCRA hazardous waste no:	D001 (Ignitable)

SIGNATURE: Peter Fougner Peter P Fougner TITLE: Director of Global Quality Assurance

REVISION DATE: December, 2004 SUPERSEDES: November, 2003

NA: Not applicable NDA: No data available < = Less than > = More than

We believe the statements, technical information and recommendations contained herein are reliable. However, the data is provided without warranty, expressed or implied. It is the user's responsibility both to determine safe conditions for use of this product and assume loss, damage or expense, direct or consequential, arising from its use. Before using product, read label.

IPS
WELD-ON

MATERIAL SAFETY DATA SHEET

Date Revised: MAR 2005
Supersedes: MAY 2004

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act and shall not be used for any other purpose. IPS Corporation urges the customers receiving this Material Safety Data Sheet to study it carefully to become aware of the hazards, if any, of the product involved. n the interest of safety, you should notify your employees, agents and contractors of the information on this sheet.

SECTION I

MANUFACTURER'S NAME
IPS Corporation
ADDRESS
17109 S. Main St., P.O. Box 379, Gardena, CA. 90248

Transportation Emergencies:
CHEMTREC: (800) 424-9300
Medical Emergencies:
3 E COMPANY (24 Hour No.) (800) 451-8346
Business: (310) 898-3300

CHEMICAL NAME and FAMILY
Mixture of Organic Solvents
Acrylic Cement

TRADE NAME:
WELD-ON 4 for Acrylic
FORMULA: Proprietary

SECTION II - HAZARDOUS INGREDIENTS

Two of the ingredients listed below are listed as a carcinogen (‡) by the IARC and/or NTP

	CAS#	APPROX %	ACGIH-TLV	ACGIH-STEL	OSHA-PEL	OSHA-STEL
Methylene Chloride (‡)	75-09-2	30 - 60*	50 PPM		25 PPM	125 PPM
Methyl Acetate	79-20-9	30 - 60*	200 PPM	250 PPM	200 PPM	
Methyl Methacrylate Monomer	80-62-6	0 - 5	100 PPM		100 PPM	

All of the constituents of Weld-On adhesive products are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing

*Title III Section 313 Supplier Notification: This product contains toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40CFR372. This information must be included in all MSDS's that are copied and distributed for this material.

PROPOSITION 65 NOTICE

This product contains chemicals known to the state of California to cause cancer.

This material is an aspiration hazard and defats the skin. The ingredients are toxic by inhalation and ingestion and may be absorbed through the skin. Exposure by these routes may cause central nervous system depression, liver and kidney damage and may sensitize the heart muscle. Methylene Chloride may interfere with the oxygen carrying capacity of the blood. Methylene Chloride is a possible human cancer hazard based on test results with laboratory animals. Methylene Chloride has been listed as a potential carcinogen by IARC and NTP. Methylene Chloride is not believed to pose a measureable risk to man when handled as recommended. Under some circumstances, mutagenic changes have been observed with Methyl Methacrylate in animal studies. Precautions should be taken to avoid unnecessary exposure to this cement.

SHIPPING INFORMATION

DOT Shipping Name:	Flammable liquid, toxic, n.o.s. (Methyl Acetate, Dichloromethane)
DOT Hazard Class:	3; Subsidiary Risk: 6.1
Identification Number:	UN 1992
Packaging Group:	II
Label Required:	Flammable Liquid & Toxic (Domestic & International)
Exceptions:	None

SPECIAL HAZARD DESIGNATIONS

	HMIS	NFPA	HAZARD RATING
HEALTH:	3	2	0 - MINIMAL
FLAMMABILITY:	3	3	1 - SLIGHT
REACTIVITY:	0	0	2 - MODERATE
PROTECTIVE			3 - SERIOUS
EQUIPMENT:	B - H		4 - SEVERE

B = Eye, Hand/Skin Protection (Normal use or application & small spill clean-up activities)
H = Eye, Hand/Skin and Respiratory Protection plus Impermeable Apron (When risk of immersion, dipping and/or splashing is present)

SECTION III - PHYSICAL DATA

APPEARANCE	ODOR	BOILING POINT (°F/°C)
Clear, thin liquid	Characteristic odor of chlorinated solvents	104°F (40°C) Based on first boiling component: Methylene Chloride
SPECIFIC GRAVITY @ 73°F ± 3.62° (23°C ± 2°)	**VAPOR PRESSURE (mm Hg.)**	**PERCENT VOLATILE BY VOLUME (%)**
Typical 1.09 ± 0.040	355 mm Hg. @ 68°F (20°C) based on first boiling component, Methylene Chloride	100%
VAPOR DENSITY (Air = 1)	**EVAPORATION RATE (BUAC = 1)**	**SOLUBILITY IN WATER**
2.93 based on Methylene Chloride	Approx. 14.5 based on Methylene Chloride	Slightly miscible

VOC STATEMENT: Maximum VOC emissions as applied and tested per SCAQMD Rule 1168, Test Method 316A: 250 Grams/Liter (g/l). Meets VOC emission limits for Plastic Cement Welding.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT
14°F (-10°C) TCC based on Methyl Acetate

FLAMMABLE LIMITS (Percent by Volume)	LEL	UEL
	N/A	N/A

FIRE EXTINGUISHING MEDIA
Dry chemical, carbon dioxide or foam. Water may be an ineffective extinguishing agent.

SPECIAL FIRE FIGHTING PROCEDURES
The use of a SCBA is recommended for fire fighters. Water spray may be useful in minimizing vapors and cooling containers exposed to heat and flame. Avoid spreading burning liquid with water used for cooling purposes.

JNUSUAL FIRE AND EXPLOSION HAZARDS
Avoid hot surfaces and other sources of ignition.

SECTION V - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: X Inhalation X Skin Contact ____ Eye Contact ____ Ingestion

EFFECT OF OVEREXPOSURE

ACUTE:

'nhalation: Exposure to vapors may result in nausea, drowsiness, dizziness, headache, fatigue, other CNS effects and heart arrhythmias (irregular heart beats). Can cause irritation of eyes and nasal passages. Exposure to high concentrations may impair blood's ability to transport oxygen. Prolonged or repeated exposure to vapors may cause liver and kidney damage.

Skin Contact: Repeated or prolonged contact may result in defatting of skin, irritation, contact dermatitis, rash, itching, swelling. May be absorbed through skin.

Eye Contact: Direct exposure may result in irritation with corneal or conjuctival inflammation if not removed promptly. Vapors may irritate eyes.

Ingestion: Moderately toxic. Irritant to digestive tract, may induce signs of central nervous system depression. Do not induce vomiting and obtain promp medical attention.

CHRONIC:

Inhalation ‡ This material is an aspiration hazard and defats the skin. The ingredients are toxic by inhalation and ingestion and may be absorbed through these routes may cause central nervous system depression, liver and kidney damage and may sensitize the heart muscle. Methylene Chloride oxygen carrying capacity of the blood. Methylene Chloride is a possible human cancer hazard based on test results with laboratory animals. Me has been listed as a potential carcinogen by IARC and NTP. Methylene Chloride is not believed to pose a measureable risk to man when handle Under some circumstances, mutagenic changes have been observed with Methyl Methacrylate in animal studies. Precautions should be taken exposure to this cement.

Ingestion Ingestion of alcohol may increase the potential for development of toxic effects or reactions resulting from Methylene Chloride exposure.

REPRODUCTIVE EFFECTS	TERATOGENICITY	MUTAGENICITY	EMBRYOTOXICITY	SENSITIZATION TO PRODUCT	SYNERGISTIC PRODUCTS
N. AP.	POSS.	N. AP.	POSS.	N. AP.	N. AV.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: This material may aggravate an existing dermatitis. Individuals with pre-existing diseases of the heart, liver or kidney may have increased susceptibility to the toxicity of excessive exposures.

EMERGENCY AND FIRST AID PROCEDURES

Inhalation: Remove patient to fresh air and if breathing stopped, give artificial respiration. If breathing is difficult, give oxygen. Contact physician immediately.

Eye Contact: Immediately flush eyes with flowing water for 15 minutes and contact a physician.

Skin Contact: Wash skin with soap and water. Remove contaminated clothing and shoes. Launder clothing before reuse. If irritation develops, get medical attention.

Ingestion: Give 1 or 2 glasses of water or milk. Do not induce vomiting. Call physician or poison control center immediately.

SECTION VI - REACTIVITY

STABILITY			CONDITIONS TO AVOID:
	UNSTABLE		Stable under normal conditions of storage and handling. Avoid contact or exposure to fire, heat, sparks, electric arcs, open flame and hot surfaces which can cause thermal decomposition.
	STABLE	X	

INCOMPATIBILITY

(MATERIALS TO AVOID) Strong alkalies, oxygen, nitrogen, peroxide, potassium and reactive metals.

HAZARDOUS DECOMPOSITION PRODUCTS

This product gives out carbon monoxide (CO), carbon dioxide (CO^2), Phosgene gas and smoke upon combustion or contact with reactive metals.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		Keep away from heat, sparks, open flame and other sources of ignition.
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Evacuate area, ventilate and avoid breathing vapors. Dike area to contain spill. Clean up area (wear protective equipment) by mopping or with absorbent material and place in closed containers for disposal. Avoid contamination of ground and surface waters. Do not flush to sewer. If spill occurs indoors, turn off heating and/or air conditioning systems to prevent vapors from contaminating entire building.

WASTE DISPOSAL METHOD

Recovered liquids may be sent to a licensed reclaimer or incineration facility. Contaminated material must be disposed of in a permitted solid waste management facility. Follow local, State and Federal regulations. Material should not be allowed to drain into domestic sewer or storm drains. Consult disposal expert.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

Atmospheric levels should be maintained below established exposure limits contained in Section II. If airborne concentrations exceed those limits, use of a NIOSH approved positive-pressure, full-facepiece SCBA or positive-pressure, full-facepiece supplied air respirator (with an auxiliary positive pressure SCBA) is recommended. Even for emergency and other conditions where short term exposure guidelines may/may not be exceeded, use of an approved positive pressure self-contained breathing apparatus (SCBA) is recommended.

VENTILATION

Use only with adequate ventilation. Do not use in close quarters of confined spaces. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below 25 ppm TWA. Use only explosion-proof ventilation equipment. Monitoring should be performed to determine exposure level(s) IAW (in accordance with) 29 CFR 1910.1052.

PROTECTIVE GLOVES PVA coated or latex-nitrile for frequent dipping/immersion. Use of latex/nitrile surgical gloves or solvent resistant barrier creme should provide adequate protection when normal practices & procedures are used for solvent-cement welding/bonding of plastic sheet or other substrate joints.

EYE PROTECTION Splashproof chemical goggles, face shield, safety glasses (spectacles) with brow guard and side shields, etc. as appropriate for exposure.

OTHER PROTECTIVE EQUIPMENT AND HYGIENIC PRACTICES

Impervious apron and a source of running water to flush or wash the eyes and skin in case of contact.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Store in a shaded place between 40°F - 110°F (5°C - 43.7°C). Keep away from all sources of heat, sparks, open flame and other sources of ignition. Close container after each use. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Train employees on all special handling procedures before they work with this product.

OTHER PRECAUTIONS

Follow all precautionary information given on container label, product bulletins and our solvent cementing literature. All material handling equipment should be electrically grounded.

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

'NFORCER Products, Inc.
.·.O. Box 1060
Cartersville, GA 30120
1-888-805-HELP

Material Safety Data Sheet
and Safe Handling and Disposal Information

Section 1. Chemical Product and Company Identification

Product Name	**Zep Antibacterial Disinfectant & Cleaner**
Product Code	**ZADC32/128** **CN-DIS-32/128**
Formula No.	**F0679 (EPA Reg# 1839-83-40849)**
Date of issue	**02/04/03**
Emergency telephone number	**For MSDS Information:** Compliance Services (404) 352-1680 **For a Medical Emergency:** INFOTRAC **(877) 541-2016 (Toll Free - Calls Recorded)** **For a Transportation Emergency:** CHEMTREC **(800) 424-9300 (Toll Free - Calls Recorded)**
Prepared by	Compliance Services Group Acuity Specialty Products Group 1420 Seaboard Industrial Blvd. Atlanta, GA 30318

Section 2. Composition, Information on Ingredients

Name of Hazardous Ingredients	CAS #	% by Weight	Exposure Limits
1) DIETHYLENE GLYCOL MONOBUTYL ETHER; 2-(2-butoxyethoxy)-ethanol; butyl carbitol	112-34-5	1-10	Not available.
2) TETRASODIUM ETHYLENEDIAMINE TETRAACETATE; thylenediamine tetraacetic acid; tetrasodium salt	64-02-8	1-10	Not available.

Section 3. Hazards Identification

Acute Effects **Routes of Entry** Eye contact. Ingestion.

Eyes Slightly hazardous in case of eye contact (irritant).
Skin May cause mild irritation with direct contact.
Inhalation Non-hazardous in case of inhalation.
Ingestion Slightly hazardous in case of ingestion.

HMIS

Health	1
Fire Hazard	0
Reactivity	0
Personal Protection	A

Chronic Effects There is no known effect from chronic exposure to this product.
Carcinogenic Effects Not listed as carcinogen by OSHA, NTP or IARC.

See Toxicological Information (section 11)

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Get medical attention if irritation occurs.
Skin Contact Wash with soap and water. Get medical attention if irritation develops.
Inhalation Inhalation not likely under normal use conditions.
Ingestion Not harmful if accidentally ingested in small quantities.

Section 5. Fire Fighting Measures

Flash Point Not applicable. **Flammable Limits** Not applicable.
Flammability Not available. **Fire Hazard** Not applicable.
Fire-Fighting Procedures Not applicable.

011365

Continued on Next Page

Section 6. Accidental Release Measures

Spill Clean up Small spills can be taken up with an absorbent and placed in clean dry containers for later disposal.

Section 7. Handling and Storage

andling No special precautions are necessary if used as intended.
Storage Keep container tightly closed. Keep container in a cool, well-ventilated area. Store above 40°F and below 120°F.

Section 8. Exposure Controls, Personal Protection

Personal Protection

Eyes Safety glasses.
Body Protective gloves should be worn under prolonged conditions of use.
Respiratory No special protection is required.

Protective Clothing (Pictograms)

Section 9. Physical and Chemical Properties

Physical State	Liquid.	**Color**	Green.
pH	11.7-12.4	**Odor**	Lemon like.
Boiling Point	104.44°C (220°F)	**Vapor Pressure**	Not available.
Specific Gravity	1.006 (Water = 1)	**Vapor Density**	Not available.
VOC (Consumer)	0.8 (g/l).	**Evaporation Rate**	Not available.
Solubility	Easily soluble in cold water, hot water.		

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.
Incompatibility Do not mix with acids, ammonia, or other chemical.
Hazardous Decomposition Products Not applicable.
Hazardous Polymerization Will not occur.

Section 11. Toxicological Information

Toxicity to Animals

Diethylene glycol monobutyl ether:
ORAL (LD50): Acute: 6560 mg/kg [Rat.].
Tetrasodium EDTA:
ORAL (LD50): Acute: 3030 mg/kg [Rat.].

hronic Effects on Humans There is no known effect from chronic exposure to this product.

Section 12. Ecological Information

Ecotoxicity Not available.
Biodegradable/OECD Not available.

Section 13. Disposal Considerations

Waste Information Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Waste Stream Code: Non- Hazardous
Classification: Non-Hazardous
Origin: RCRA

Consult your local or regional authorities.

Section 14. Transport Information

Proper shipping name Not applicable.
DOT Classification Not a DOT controlled material (United States).
UN number Not applicable.

TDG Classification Not a TDG controlled material.

Section 15. Regulatory Information

U.S. Federal Regulations SARA 313 toxic chemical notification and release reporting: Diethylene glycol monobutyl ether
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 regulated toxic substances: Diethylene glycol monobutyl ether

State Regulations California prop. 65: No products were found.

WHMIS (Canada) Class D-2B: Material causing other toxic effects (TOXIC).

011366

Continued on Next Page

Section 16. Other Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication Standard " (29 CFR 1910.1200)

Section 1 Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030

Telephone : For information (410) 771-0100
For emergency (410) 584-8987

Product Name	Catalog Number
Alkaline Peptone Water	4397814

Section 2 Hazardous Ingredients

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard.

Section 3 Physical Data

	Product
Boiling Point :	Not Determined
Vapor Pressure (mmHg) :	Not Determined
Vapor Density (Air=1):	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc=1):	Not Determined
Product Appearance/Odor	Clear to trace hazy, colorless to light tan yellow liquid.
Product Solubility In Water	Not Applicable

Section 4 Fire and Explosion Hazard Data

	Product
Flash Point :	Not Determined
Flammable Limits (LEL/UEL) :	Not Determined
Extinguishing Media :	Waterspray
Special Procedures/ Unusual Hazards :	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 Health Hazard Data

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced, such as flushing with copious amounts of water. Persons with known or suspected allergies to antibiotics should advise their physician of any exposure involving media containing antibiotics.

Section 6 Reactivity Data

	Product
Stable/Unstable:	Stable
Materials to Avoid:	Not Determined
Conditions to Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 Spill and Waste Disposal Procedures

Spill: In the event of a spill, immediately disinfect the area. Wear gloves. Use paper towels to absorb liquid and/or gelled material. Contaminated material must be autoclaved prior to discarding.
Waste Disposal : Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared tubed media, specimen containers, and other contaminated materials must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State, and local regulations.

Section 8 Special Protection Information
Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended but not required.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 Special Precautions/Comments

Date of Preparation:_____10/31/94____

By _____

Disclaimer : The information ,data and recommendations contained herein are believed to be accurate. Becton Dickinson Microbiology Systems makes no warranty of any kind whatever and disclaims all liability from reliance thereon. We reserve the right to periodically revise this MSDS as new information becomes available.

MATERIAL SAFETY DATA SHEET
OSHA "Hazard Communication" (29 CFR 1910.1200)

Section 1 - Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone For Information: (410) 771-0100
For Emergency:(410) 584-8987

Prepared Plated Media Classified As Selective In Use

Product Name	Catalog #
BCYE Selective Agar with PAC	4397879

Section 2 - Hazardous Ingredients

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
Specific Gravity:	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Charcoal black to black green gel, translucent to opaque, with charcoal particles evenly distributed.
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point (method):	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Fire Fighting Procedures or: Unusual Fire and Explosion Hazards	Product will not burn. If product becomes involved in a fire situation extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media.

Section 6 - Reactivity Data

	Product
Stable/Unstable:	Stable
Conditions To Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety Glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:_____10/18/91_____

Date of Revision:_____4/20/93_____

Date of Latest Revision : _____5/11/94_____

By: _____

Disclaimer :
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MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication Standard " (29 CFR 1910.1200)

Section 1 Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030

Telephone : For Information (410) 771-0100
For Emergency (410) 584-8987

Prepared Tubed and Mycoflask® Media --- Classified as General

Product Name	Catalog Number
Campylobacter Thioglycollate Medium w/5 Antimicrobics	4321748

Section 2 Hazardous Ingredients

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard.

Section 3 Physical Data

	Product
Boiling Point :	Not Determined
Vapor Pressure (mmHg) :	Not Determined
Vapor Density (Air=1):	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc=1):	Not Determined
Product Appearance/Odor:	Light to medium tan-yellow gel
Product Solubility In Water:	Not Applicable

Section 4 Fire and Explosion Hazard Data

	Product
Flash Point :	Not Determined
Flammable Limits (LEL/UEL) :	Not Determined
Extinguishing Media :	Waterspray
Special Procedures/ Unusual Hazards :	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 Health Hazard Data

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced, such as flushing with copious amounts of water. Persons with known or suspected allergies to antibiotics should advise their physician of any exposure involving media containing antibiotics.

Section 6 Reactivity Data

	Product
Stable/Unstable:	Stable
Materials to Avoid:	Not Determined
Conditions to Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 Spill and Waste Disposal Procedures

Spill: In the event of a spill, immediately disinfect the area. Wear gloves. Use paper towels to absorb liquid and/or gelled material. Contaminated material must be autoclaved prior to discarding.

Waste Disposal : Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared tubed media, specimen containers, and other contaminated materials must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State, and local regulations.

Section 8 Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended but not required.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 Special Precautions/Comments

Date of Preparation:_____10/16/91_____

Date of Revision:_____7/14/93_____

Date of Latest Revision_____5/13/94_____

By _____

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MATERIAL SAFETY DATA SHEET
OSHA "Hazard Communication" (29 CFR 1910.1200)

Section 1 - Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone For Information: (410) 771-0100
For Emergency: (410) 584-8987

Product Name	**Catalog #**
Chocolate II Agar	4321267

Section 2 - Hazardous Ingredients

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
Specific Gravity:	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Medium to dark chocolate brown gel
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point (method):	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Fire Fighting Procedures or Unusual Fire and Explosion Hazards	Product will not burn. If product becomes involved in a fire situation extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media.

Section 6 - Reactivity Data

	Product
Stable/Unstable:	Stable
Conditions To Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety Glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:_____10/18/91_____

Date of Revision:_____4/20/93_____

Date of Latest Revision _____5/11/94 _____

By: _____

Disclaimer :
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MATERIAL SAFETY DATA SHEET
OSHA "Hazard Communication" (29 CFR 1910.1200)

Section 1 - Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone For Information: (410) 771-0100
For Emergency:(410) 584-8987

Prepared Plated Media Classified As Selective In Use

Product Name	Catalog #
Columbia CNA with 5% Sheep Blood	4321353

Section 2 - Hazardous Ingredients

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
Specific Gravity:	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Light to medium red gel
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point (method):	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Fire Fighting Procedures or: Unusual Fire and Explosion Hazards	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media.

Section 6 - Reactivity Data

	Product
Stable/Unstable:	Stable
Contions To Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:_____10/18/91_____

Date of Revision:_____5/11/94_____

By: _____

Disclaimer :
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MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication Standard " (29 CFR 1910.1200)

Section 1 Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030

Telephone : For Information (410)771-0100
For Emergency (410)584-8789

Prepared Plated Media Classified As Selective

Product Name	**Catalog Number**
Hektoen Enteric Agar	4321366

Section 2 Hazardous Ingredients

Hazardous Chemical Name (Synonym)	%	Exposure Limit, Toxicity Data, CAS Number
Sucrose (Beet Sugar)	4.0	TLV: 10 mg/m3; Tox. Data: Rat (oral); LD50: 29700 mg/kg :CAS # 57-50-1 PEL: Not Determined

Section 3 Physical Data

	Sucrose	Product
Boiling Point :	185 to 187 C	Not Determined
Vapor Pressure (mmHg) :	Not Determined	Not Determined
Vapor Density (Air=1):	Not Determined	Not Determined
% Volatile By Volume:	Not Determined	Not Determined
Specific Gravity (H20=1):	Not Determined	Not Determined
Evaporation Rate (BuAc=1):	Not Determined	Not Determined
Product Appearance/Odor:	Light to medium yellow green to green gel	
Product Solubility In Water:	Not Applicable	

Section 4 Fire and Explosion Hazard Data

	Sucrose	Product
Flash Point :	Not Determined	Not Determined
Flammable Limits (LEL/UEL) :	Not Determined	Not Determined
Extinguishing Media :	Waterspray	Waterspray

Special Procedures/: Unusual Hazards — Product will not burn. If product becomes involved in a fire situation, any extinguishing media for surrounding material should be appropriate.

Section 5 Health Hazard Data

Component - Sucrose

Routes of Entry:Eye,skin,inhalation,ingestion

Health Hazards : (Acute)

Eye - May cause irritation.

Skin - May cause irritation.

Inhalation - May cause irritation of nose, throat and lungs.

Section 5 Health Hazard Data (Continued)

Ingestion - Extremely large doses may cause irritation of the gastrointestinal tract.

Carcinogenicity: Not listed by NTP, IARC or OSHA.

Medical Conditions Aggravated By Exposure (Chronic) : Not Determined

Emergency First Aid Procedures :

Eyes- Immediately flush with running water for at least 15 minutes. Get medical attention.

Skin - Wash with soap and water.

Inhalation - Remove to fresh air.

Ingestion - If large amounts were ingested, give water to dilute. Get medical attention.

Section 6 Reactivity Data

	Sucrose	Product
Stable/Unstable:	Stable	Stable
Conditions to Avoid:	Excessive heat	Not determined
Material to Avoid:	Oxidizers	Not Determined
Hazardous Polymerization:	Will not occur	Will not occur

Section 7 Spill and Waste Disposal Procedures

Spill: Wear gloves. Use paper towels to pickup gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.

Waste Disposal : Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to disposal. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 Special Protection Information

Respiratory Protection: Not required under normal product usage.

Ventilation: General and/or local to meet TLV requirements. When product is used as directed exposure limits are not expected to reach the TLV.

Protective Gloves: Not required under normal product usage.

Eye Protection: Safety glasses.

Other Protective Equipment: Eyewash stations immediately available.

Section 9 Special Precautions/Comments

Date of Preparation _____10/18/91_____Date of Revision _____5/10/94_____

By:_____

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MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication " (29 CFR 1910.1200)

Section 1 - Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone : For Information (410) 771-0100
For Emergency (410) 584-8987

Prepared Plated Media Classified As Differential In Use

Product Name	Catalog Number
MacConkey II Agar	4321270

Section 2 - Hazardous Ingredients

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
Specific Gravity:	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Medium to dark rose tan gel, with orange tinge
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point (method):	Not Determined
Flammable Limits (LEL/UEL):	Not Determined
Extinguishing Media:	Waterspray
Special Fire Fighting Procedures or: Unusual Fire and Explosion Hazards	Product will not burn. If product becomes involved in a fire situation extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media.

Section 6 - Reactivity Data

	Product
Stable/ Unstable:	Stable
ConditionsTo Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety Glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:_____10/18/91_____

Date of Revision:_____5/10/94_____

By: _____

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MATERIAL SAFETY DATA SHEET
OSHA "Hazard Communication" (29 CFR 1910.1200)

Section 1 - Manufacturer and Product
Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone For Information: (410) 771-0100
For Emergency:(410) 584-8987

Prepared Plated Media Classified As Selective In Use

Product Name	**Catalog Number**
MacConkey II Agar with Sorbitol	4397953

Section 2 - Hazardous Ingredients

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
Specific Gravity:	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Rose tan gel
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point (method):	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Fire Fighting Procedures or: Unusual Fire and Explosion Hazards	Product will not burn. If product becomes involved in a fire situation extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media.

Section 6 - Reactivity Data

	Product
Stable/Unstable:	Stable
Conditions To Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:_____9/30/91_____

Date of Revision:_____5/12/94_____

By: _____

Disclaimer :
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MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication " (29 CFR 1910.1200)

Section 1 - Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone : For Information (410) 771-0100
For Emergency (410)584-8987

Prepared Plated Media Classified As General/Selective In Use
I Plates (100 x 15 mm Style, Divided)

Product Name	Catalog #
Middlebrook 7H11 // 7H11 Selective Agar	4397250

Section 2 Hazardous Ingredients

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Light to medium gray tan gel
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point (method):	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Fire Fighting Procedures or: Unusual Fire and Explosion Hazards	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media.

Section 6 - Reactivity Data

	Product
Stable/Unstable:	Stable
Conditions To Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:_____9/30/91_____

Date of Revision:_____5/11/94_____

By: _____

Disclaimer :
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MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication Standard " (29 CFR 1910.1200)

Section 1 Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030

Telephone : For Information (410) 771-0100
For Emergency (410) 584-8987

Prepared Tubed and Mycoflask® Media --- Classified as General

Product Name	Catalog Number
Potato Dextrose Agar Deeps (Pour Tube) 20 ml	21002

Section 2 Hazardous Ingredients

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard.

Section 3 Physical Data

	Product
Boiling Point :	Not Determined
Vapor Pressure (mmHg) :	Not Determined
Vapor Density (Air=1):	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc=1):	Not Determined
Product Appearance/Odor:	Light to medium tan yellow gel
Product Solubility In Water:	Not Applicable

Section 4 Fire and Explosion Hazard Data

	Product
Flash Point :	Not Determined
Flammable Limits (LEL/UEL) :	Not Determined
Extinguishing Media :	Waterspray
Special Procedures/ Unusual Hazards :	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 Health Hazard Data

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced, such as flushing with copious amounts of water. Persons with known or suspected allergies to antibiotics should advise their physician of any exposure involving media containing antibiotics.

Section 6 Reactivity Data

	Product
Stable/Unstable:	Stable
Materials to Avoid:	Not Determined
Conditions to Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 Spill and Waste Disposal Procedures

Spill: In the event of a spill immediately disinfect the area. Wear gloves. Use paper towels to absorb liquid and/or gelled material. Contaminated material must be autoclaved prior to discarding.
Waste Disposal : Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared tubed media, specimen containers and other contaminated materials must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State, and local regulations.

Section 8 Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended but not required.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 Special Precautions/Comments

Date of Preparation:_____10/16/91_____

Date of Revision:_____7/14/93_____

Date of Latest Revision _____5/16/94_____

By _____

Disclaimer : The information, data and recommendations contained herein are believed to be accurate. Becton Dickinson Microbiology Systems makes no warranty of any kind whatsoever and disclaims all liability from reliance thereon. We reserve the right to periodically revise this MSDS as new information becomes available.

MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication " (29 CFR 1910.1200)

Section 1 - Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone : For Information (410) 771-0100
For Emergency (410)584-8987

Prepared Plated Media Classified As Differential In Use

Product Name	Catalog Number
Regan-Lowe Charcoal Agar	4397883

Section 2 - Hazardous Ingredients

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
Specific Gravity:	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Translucent to opaque, charcoal black to black-green gel
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point:	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Procedures/ Unusual Hazards:	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of any incident that may have resulted in exposure to antibiotic treated media.

Section 6 - Reactivity Data

	Product
Stable/ Unstable:	Stable
Contions To Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:_____9/30/91_____Date of Revision:_____5/10/94_____

By: _____

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MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication Standard " (29 CFR 1910.1200)

Section 1 Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030

Telephone : For Information (410) 771-0100
For Emergency (410) 584-8987

Prepared Tubed and Mycoflask® Media — Classified as General

Product Name	Catalog Number
SABHI Agar Slants	97691

Section 2 Hazardous Ingredients

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard.

Section 3 Physical Data

	Product
Boiling Point :	Not Determined
Vapor Pressure (mmHg) :	Not Determined
Vapor Density (Air=1):	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc=1):	Not Determined
Product Appearance/Odor:	Light to medium tan-yellow gel
Product Solubility In Water:	Not Applicable

Section 4 Fire and Explosion Hazard Data

	Product
Flash Point :	Not Determined
Flammable Limits (LEL/UEL) :	Not Determined
Extinguishing Media :	Waterspray
Special Procedures/ Unusual Hazards :	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 Health Hazard Data

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced, such as flushing with copious amounts of water. Persons with known or suspected allergies to antibiotics should advise their physician of any exposure involving media containing antibiotics.

Section 6 Reactivity Data

	Product
Stable/Unstable:	Stable
Materials to Avoid:	Not Determined
Conditions to Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 Spill and Waste Disposal Procedures

Spill: In the event of a spill, immediately disinfect the area. Wear gloves. Use paper towels to absorb liquid and/or gelled material. Contaminated material must be autoclaved prior to discarding.
Waste Disposal : Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared tubed media, specimen containers, and other contaminated materials must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended but not required.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 Special Precautions/Comments

Date of Preparation:_____10/16/91_____

Date of Revision:_____7/14/93_____

Date of Latest Revision: _____5/16/94_____

By _____

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MATERIAL SAFETY DATA SHEET
OSHA "Hazard Communication" (29 CFR 1910.1200)

Section 1 - Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone For Information: (410) 771-0100
For Emergency: (410) 584-8987

Prepared Plated Media Classified As General/Differential In Use

Product Name	**Catalog #**
Sabouraud Dextrose Agar (Deep Fill)	4321278

Section 2 Hazardous Ingredients

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
Specific Gravity:	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Light to medium tan cream to tan yellow gel
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point:	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Procedures/ Unusual Hazards:	Product will not burn. If product becomes involved in a fire situation extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media.

Section 6 - Reactivity Data

	Product
Stable/Unstable:	Stable
ContionsTo Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety Glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:__10/18/91_____

Date of Revision:_____5/11/94_____

By: _____

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MATERIAL SAFETY DATA SHEET
OSHA "Hazard Communication" (29 CFR 1910.1200)

Section 1 - Manufacturer and Product
Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone For Information: (410) 771-0100
For Emergency:(410) 584-8987

Prepared Plated Media Classified As General/Differential In Use

Product Name	**Catalog #**
Seven H11 Agar (Deep Fill)	4321870

Section 2 Hazardous Ingredients

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
Specific Gravity:	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Light tan gray gel
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point (method):	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Fire Fighting Procedures or: Unusual Fire and Explosion Hazards	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media

Section 6 - Reactivity Data

	Product
Stable/Unstable:	Stable
ContionsTo Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation:__10/18/91_____

Date of Revision:_____5/11/94_____

By: _____

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MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication Standard " (29 CFR 1910.1200)

Section 1 Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030

Telephone : For Information (410) 771-0100
For Emergency (410) 584-8987

Prepared Tubed and Mycoflask® Media --- Classified as General

Product Name	Catalog Number
Enriched Thioglycollate Medium w/Vitamin K_1 and Hemin, 8 ml	4321788

Section 2 Hazardous Ingredients

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard.

Section 3 Physical Data

	Product
Boiling Point :	Not Determined
Vapor Pressure (mmHg) :	Not Determined
Vapor Density (Air=1):	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc=1):	Not Determined
Product Appearance/Odor	Clear, light to medium light yellow liquid
Product Solubility In Water	Not Applicable

Section 4 Fire and Explosion Hazard Data

	Product
Flash Point :	Not Determined
Flammable Limits (LEL/UEL) :	Not Determined
Extinguishing Media :	Waterspray
Special Procedures/ Unusual Hazards :	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 Health Hazard Data

This product contains no hazardous ingredients as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced, such as flushing with copious amounts of water. Persons with known or suspected allergies to antibiotics should advise their physician of any exposure involving media containing antibiotics.

Section 6 Reactivity Data

	Product
Stable/Unstable:	Stable
Materials to Avoid:	Not Determined
Conditions to Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 Spill and Waste Disposal Procedures

Spill: In the event of a spill, immediately disinfect the area. Wear gloves. Use paper towels to absorb liquid and/or gelled material. Contaminated material must be autoclaved prior to discarding.

Waste Disposal : Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared tubed media, specimen containers, and other contaminated materials must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State, and local regulations.

Section 8 Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended but not required.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 Special Precautions/Comments

Date of Preparation:_____10/16/91_____

Date of Revision:_____7/14/93_____

Date of Latest Revision_____8/29/94_____

By _____

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MATERIAL SAFETY DATA SHEET
OSHA " Hazard Communication " (29 CFR 1910.1200)

Section 1 - Manufacturer and Product

Becton Dickinson Microbiology Systems
250 Schilling Circle
Cockeysville, Maryland 21030
Telephone : For Information (410) 771-0100
For Emergency (410)584-8987

Prepared Plated Media Classified As General/Selective In Use
I Plates (100 x 15 mm Style, Divided)

Product Name	Catalog #
Trypticase Soy Agar w/5% Sheep Blood // MacConkey II Agar	4321290

Section 2 Hazardous Ingredients

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard.

Section 3 - Physical Data

	Product
Melting Point:	Not Determined
Vapor Pressure (mmHg):	Not Determined
Vapor Density (air =1):	Not Determined
% Volatile By Volume:	Not Determined
Evaporation Rate (BuAc = 1):	Not Determined
Product Appearance and Odor:	Light to medium red // medium rose tan to dark rose tan with orange tint gel
Product Solubility in Water:	Not Applicable

Section 4 - Fire and Explosion Hazard Data

	Product
Flash Point (method):	Not Determined
Flammable Limits (Lel/Uel):	Not Determined
Extinguishing Media:	Waterspray
Special Fire Fighting Procedures or: Unusual Fire and Explosion Hazards	Product will not burn. If product becomes involved in a fire situation, extinguishing media for surrounding material should be appropriate.

Section 5 - Health Hazard Data

This product contains no hazardous materials as defined by the OSHA Hazard Communication Standard. However, in the event of a spill or accident involving this material, good personal hygiene should be practiced. Also, individuals with known or suspected allergies should advise physician of incident that may have resulted in exposure to antibiotic treated media

Section 6 - Reactivity Data

	Product
Stable/Unstable:	Stable
Conditions To Avoid:	Not Determined
Materials To Avoid:	Not Determined
Hazardous Polymerization:	Will not occur

Section 7 - Spill or Leak Procedures

Spill:
Use paper towels to pick up gelled material. Wash area with soap and water after cleanup is complete. See waste disposal for proper disposal method.
Waste Disposal:
Observe aseptic techniques and established precautions against microbiological hazards throughout all procedures. After use, prepared plates, specimen containers and other contaminated material must be autoclaved prior to discarding. Directions for use should be read and followed carefully. Follow all current Federal, State and local regulations.

Section 8 - Special Protection Information

Respiratory Protection: Not required under normal product usage.
Ventilation: Not required under normal product usage.
Protective Gloves: Latex gloves recommended.
Eye Protection: Safety glasses.
Other Protective Equipment: Not required under normal product usage.

Section 9 - Special Precautions/Comments

Date of Preparation: 9/30/91

Date of Revision: 5/11/94

By: _____

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CLINICAL STANDARDS LABORATORIES, INC.

DOMINGUEZ TECHNOLOGY CENTER
2011 EAST UNIVERSITY DR. • RANCHO DOMINGUEZ, CA 90220-6445
PHONES: (310) 537-6800 • 1 (800) 648-2557 • FAX (310) 763-1250

MATERIAL SAFETY DATA SHEET

IDENTIFICATION

Product	Catalog Number (s)
Prepare Culture media	1001-, 1002-, 1003-, 1004-, 1005-, 1006-, 1007-, 1008-, 1009-, 1010-, 1011-, 1012-, 1013-, 1014-, 1015-, 1016-, 1017-, 1019-, 1100-, 1109-, 1110-,1111-, 1112-, 1113-, 1114-, 1115-, 200- , 2005-, 2008-, 2009-, 2011-, 2012-, 2013-, 5003-, 5004-, 5005-, 5006-, 5007-, 5008-, 5009-, 5010-, 5011-, 5012-, 5013-, 5014-, 5102-, 5103-, 5104-, 5105-, 5106-, 5107-, 5108-, 5109-, 5110-, 5111-, 5112-, 5113-, 5116-, 5309-, 5310-, 5311-, 5321-, 5408-, 5411-,5500-, 6000-, 7016-, 7017- & 7018-.

(See catalog for detailed product listing)

Components:	% (V / V)	LD 50	CAS#
Nutrient Solutions	> 90	NH	
Other Components	< 10	NH Expert as listed below:	
Human Blood *	(5)	NH Human Source Material	
Suspected or possible carcinogens:			
Acetamide **	(1.0)	7000 mg/kg ORL-RAT	60-35-5
Chloramphenicol ***	(<0.1)	2500 mg/kg ORL-RAT	56-75-76
Ethionamide ***	(<0.1)	1320 mg/kg ORL-RAT	536-33-4
Rifampicin ***	(<0.1)	1570 mg/kg ORL-RAT	13292-46-1
Sulfomethoxazole ***	(<0.1)	6370 mg/kg ORL-RAT	723-46-6
Thallium (I) Acetate ****	(<0.1)	30 mg/kg IPR-RAT	563-68-8

* = HBT & V Agar only (catalog # 1012-1800 & 1014-2950)
** = Acetamide Agar only (catalog # 1014-0810, 5009-1110 & 5008-1330)
*** = Some selective Agar only (see product label)
**** = Mycoplasma Agar only (1011-2200)
NH = Not Hazardous: Contains no hazardous or toxic substances (or less than the defined minimum) as defined by Federal or any State Right to know laws.

CHEMICAL FAMILY

Microbiological Culture Media

PHYSICAL / CHEMICAL CHARACTERISTICS

Water soluble gels Aqueous solutions

FIRE AND EXPLOSION HAZARD DATA

No unusual fire or explosion hazard.
Plated media packaged in polystyrene dishes which can produce toxic fumes if burned if sufficient quantities.

REACTIVITY DATA

Stable

HEALTH HAZARD DATA

HBT & V AGAR only: All units of Human blood used for these products have been tested and found negative for Hepatitis B Surface Antigen and Human Immunodeficiency Virus by current FDA approved

test methods. Because no test method can offer complete assurance that these or other infectious agents are absent, these products should be considered as potentially infectious, especially if allowed to contact open wounds and body openings. (see PRECAUTION)

No case resulting from the use of these products has been reported to date!

SELECTIVE MEDIA CONTANING ONLY ACETAMIDE, CHLORAMPHENICOL, ETHIONAMIDE, RIFAMPICIN, SULFAMETHOXAZOLE OR THALLIUM ACETATE

These selective agents are listed respectively in IARC 7, 197, 74; IARC 10, 85, 76; IMEMDT 13, 83, 77; IARC 24, 243,80; IARC 24,285,80; and the EPA GENTOX Program 1986. products containing any of these agents may be harmful if swallowed inhaled or absorbed through the skin or may cause skin and eye irritation. To the best of our knowledge, the chemical, physical and toxicological properties of these compounds have not been thoroughly investigated.

ALL OTHER PREPARED MEDIA PRODUCTS

To the best of our knowledge, these products are believed to present no health hazard; however, the chemical, physical and toxicological properties of these compounds have not been thoroughly investigated.

FIRST AID

If ingested, induce vomiting if person is conscious. In case of contact, immediately flush eyes or skin with water for 15 minutes. Call a physician if irritation persists. Wash contaminated clothing before reuse.

PRECAUTIONS FOR SAFE HANDLING AND USE

HBT & V Agar Only: Handle these products at the BIOSAFETY LEVEL 2, as recommended for any potentially infectious human serum or blood specimen in the CDC/NIH manual Biosafety in Microbiological and Biomedical Laboratories, 1984. Wear protective gloves and clothing. Avoid generating or inhaling aerosols. Avoid contact with open wounds and body openings. Dispose of properly.

Selective Media Containing Suspected Carcinogens Only: Wear protective gloves and clothing. Avoid generating or inhaling aerosols. Dispose of properly.

All Other Prepared Media Products : No special precautions. Dispose of properly.

PROTECTIVE CLOTHING AND EQUIPMENT

No special protective equipment.

SPILL OR LEAK PROCEDURES

Wear protective gloves. Wipe up with water. Disinfect spill area.

DISPOSAL

All media may maintain or support the growth of pathogenic organisms if present. Autoclave before disposal or incinerate. Media containing low levels of suspected carcinogens may be incinerated in an approved chemical incinerator. Obey all local, state and federal regulations.

OTHER INFORMATION

To the best of our knowledge, the information contained herein is accurate. However, this information is intended to be used only as a guide and does not purport to be complete. Neither Clinical Standards Laboratories, Inc. nor any of its affiliates shall be held liable for the completeness or accuracy of this information or for any damage resulting from contact or use of the above product. All chemicals may present unknown health hazards and should be used with caution.

DIGENE DIAGNOSTICS, INC.

MATERIAL SAFETY DATA SHEET
Effective Date: November 30, 1995

Form 17174

Revision: 0
Page 1 of 1

IDENTIFICATION

PRODUCT NAME

Hybrid Capture System	Capture Tubes	4400-0106 4400-0298
FORMULATION	Tubes coated with solution to dryness.	

MANUFACTURER: Digene Diagnostics, Inc. 9000 Virginia Manor Road, Beltsville, MD 20705
INFORMATION: Telephone : (301) 470-6500 Fax: (301) 470-6498

HAZARDOUS INGREDIENTS IDENTIFICATION

Identity withheld under the trade secrets provisions of 29 CFR Part 1910.1200 and the Annotated Code of Maryland Article 89 Section 32N.

PHYSICAL DATA

BOILING PT	NA		SPECIFIC GRAVITY	NA
MELTING PT	NA		VAPOR DENSITY	NA
VAPOR PRESSURE	NA		EVAPORATION RATE	NA
PERCENT VOLATILE	NA		SOLUBILITY IN WATER	NA
pH	NA			
APPEARANCE	Clear tubes coated with opaque solution		ODOR	NA

FIRE AND EXPLOSION HAZARD DATA

Flashpoint: NA
Extinguishing Media: Noncombustible, use extinguishing media appropriate to surrounding fire conditions.
Special Fire Fighting Procedures: Wear appropriate NIOSH/MSHA approved respirator, chemical resistant gloves, safety goggles, other protective clothing to prevent contact with eyes and skin.
Unusual Fire and Explosion Hazards: None.

HEALTH HAZARD DATA

Effects of Overexposure: For the dry product as a whole, no information available. The solutions used for coating may contain materials which are poisonous by intraperitoneal and subcutaneous routes, experimental tumorigen.
CALIFORNIA PROPOSITION 65: This product is or contains chemical(s) known to the state of California to cause cancer.

EMERGENCY & FIRST AID

Eye Contact: Flush eyes with copious quantities of water for at least 15 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention.
Inhalation: Remove to fresh air. Give oxygen, artificial respiration if necessary. Get medical attention.
Skin Contact: Immediately wash skin with soap and copious quantities of water. Wash contaminated clothing before reuse. Get medical attention.
Ingestion: If swallowed, if conscious, wash out mouth with water. Get medical attention.

REACTIVITY DATA

Stability: Stable
Incompatibility: No information available for the dry product as a whole.
Hazardous Decomposition Products: No information available.
Hazardous Polymerization: Will not occur

SPILL AND DISPOSAL PROCEDURES

1. In Case of Spill: Not applicable.
2. For Waste Disposal: Observe all current local, state and federal regulations.

SPECIAL PRECAUTIONS (FOR HANDLING AND STORAGE)

Safety shower, respiratory equipment, suitable protective clothing, and eyewash available. Wash thoroughly after handling. Keep container tightly closed. Store at 2- 8°C.

The above information and recommendations are believed to be correct and are presented in good faith. The information shall not be taken as being all inclusive and is to be used only as a guide. Digene Diagnostics, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

Material Safety Data Sheet

EXPLOSION HAZARD DATA
To comply with OSHA's "Hazard
29 CFR 1910.1200

Section I - MANUFACTURER AND PRODUCT

Micro Test, Inc. M5 Transport Media
Catalog # M5
Micro Test , Inc.
1379 Brentford Cove
Snellville, GA 30278-6715
Telephone: (404 979 9514)

Date Prepared: 9/22/94
Signature of Preparer:

Section II - HAZARDOUS INGREDIENTS/ IDENTITY INFORMATION

None listed under OSHA
This product contains antibiotics which may be sensitizing and therefore should not come into contact with the skin or eyes. In addition, it should not be ingested or inoculated parenterally.

Section III - PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point	Not Determined
Vapor Pressure	Not Determined
Vapor Density	Not Determined
Stability in Water	Not Determined
Appearance and Color	Orange/red - No Turbidity
Melting Point	N/A
Evaporation Rate	Not Determined

Section IV- FIRE AND EXPLOSION HAZARD DATA

Flash Point	N/A
Flammable LEL	N/A
Flammable UEL	N/A
Extinguishing Media	N/A
Special Fire Fighting Procedures	N/A
Unusual Fire and explosion Hazards	N/A

SECTION V - REACTIVITY DATA

Stability	N/D
Incompatibility	N/D
Hazardous Decomposition or Byproducts	N/D
Hazardous Polymerization	N/D

Section VI-HEALTH HAZARD DATA

Hazards:
M5 contains no hazardous materials as described by the OSHA key and communication standard.

EMERGENCY AND FIRST AID PROCEDURES:

Skin - Wash with soap and water
Eyes - Flush with water and seek medical attention.
Ingestion - Seek medical attention
Parenteral inoculation - Determine the amount and seek medical attention.

Micro Test, Inc.

1379 Brentford Cove, Snellville, GA 30278-6715
Phone: 404 979 9514

Section VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Spill procedure: Use protective gloves and wipe area with absorbent towels. Discard in a disposable container. Clean area with soap and water. All uncontaminated and contaminated specimens should be placed in a biologic disposal container and autoclaved before discarding. Disposal must be in accordance with Federal, state and local laws.

Handling and storage: Handle in accordance with good laboratory hygiene and safety procedures, such as avoiding exposure and promptly removing material from skin.

Section VIII - CONTROL/SPECIAL PRECAUTIONS

M5 transport media is intended for use in the clinical/laboratory environment. It should not be handled without proper glove protection.

OTHER INFORMATION N/A

DISCLAIMER: The information, data, and recommendation contained here are believed to be accurate. Microtest makes no warranty of any kind whatsoever. We reserve the right to revise this MSDS at any time as new information becomes available.

Revised 9/22/94

MATERIAL SAFETY DATA SHEET

RIDIAN DIAGNOSTICS, INC.
3471 River Hills Drive
Cincinnati, OH 45244
(513) 271-3700

ADDITIONAL INFORMATION
SAFETY OFFICER
(513) 271-3700
Date of Preparation 03/28/97

- IDENTIFICATION -

NAME: Para-Pak Buffered 10% Formalin Fixative
Catalog #s: 900412,300112, 300812, 301012, 310112, 340060, 340812, 330110, 330210, 330410, 331010, 341060, 990420

Para-Pak PLUS 10% Formalin Catalog #: 350160, 950450, 351060
Para-Pak Ultra 10% Formalin Catalog #: 980412, 380112, 381012, 338812
FEKAL Buffered 10% Neutral Formalin Catalog #: FK1112

FORMULA: Mixture CAS #: NA
EPA HAZARDOUS WASTE ID #: Formaldehyde
EPA HAZARD WASTE CLASS: Formaldehyde T-Toxic Waste

- HAZARDOUS COMPONENTS -

COMPONENTS	%	CAS #	ACGIH TLV	HAZARD(S)
Formaldehyde	4	50-00-0	0.75 ppm TWA 1 ppm PEL	Corrosive Irritant Sensitizer Potential Carcinogen Toxic
Methyl Alcohol	1	67-56-1	200 ppm TWA	Irritant Toxic

Mixture not tested as a whole. The mixture is assumed to present the same health hazards as do the components present at ≥ 1.0% (0.1% for carcinogens).

- PHYSICAL AND CHEMICAL DATA -

APPEARANCE: Colorless liquid pH: 7.00 ± 0.2 ODOR: Pungent
VAPOR PRESSURE: ND VOLATILE COMPONENTS: ND
EVAPORATION RATE: ND SOLUBILITY IN WATER: Unlimited

- FIRE AND EXPLOSION HAZARD DATA -

FLASH POINT: >200°F
EXTINGUISHING MEDIA: Media appropriate for surrounding fire conditions.
FIRE FIGHTING PROCEDURES: Wear self contained breathing apparatus and protective clothing.
FIRE HAZARDS: May produce hazardous decomposition products.

- REACTIVITY DATA -

STABILITY: Stable HAZARDOUS POLYMERIZATION: None
INCOMPATIBILITY: Strong oxidizing agents, strong bases

- HEALTH HAZARD AND FIRST AID DATA -

EXPOSURE LIMITS: ND

EXPOSURE EFFECTS:
Eye: Irritant
Skin: Irritant
Inhalation: Headache, unconsciousness
Ingestion: Nausea, vomiting, death

FIRST AID: Obtain medical attention
Eye: Flush with water for 15 minutes
Skin: Flush with water for 15 minutes
Inhalation: Remove to fresh air. If breathing has stopped, give artificial respiration.
Ingestion: CALL A PHYSICIAN IMMEDIATELY TO DETERMINE APPROPRIATE TREATMENT!

- HANDLING AND STORAGE -

Wear chemical safety goggles, chemical resistant gloves and protective clothing. Use OSHA approved respirator if TLV exceeded. General mechanical ventilation is usually adequate under normal use. Do not exceed TLV. Containers potentially hazardous when empty. Do not reuse.

- SPILL AND DISPOSAL PROCEDURES -

SPILL: Absorb on paper, vermiculite, etc.
WASTE DISPOSAL: Consult federal, state and local regulations.

NA Not Applicable
ND Not Determined

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Meridian Diagnostics shall not be held liable for any damage resulting from handling or from contact with the above product.

MATERIAL SAFETY DATA SHEET

.ERIDIAN DIAGNOSTICS, INC.
3471 River Hills Drive
Cincinnati, OH 45244
(513) 271-3700

ADDITIONAL INFORMATION
SAFETY OFFICER
(513) 271-3700
Date of Preparation 08/23/95

-IDENTIFICATION -

NAME: Para-Pak LV-PVA Fixative Catalog #s: 900112, 300112, 300312, 300612, 310112, 340060, 330110, 330210, 380112, 338112, 400212

Para-Pak PLUS LV-PVA Catalog #: 350160
PVA Control Set Catalog #: 801100

SYNONYM: Low Viscosity Polyvinyl Alcohol Fixative
FORMULA: Mixture CAS #: NA
EPA HAZARDOUS WASTE ID #: Mercury 0009
EPA HAZARD WASTE CLASS: Mercuric chloride; EP Toxic waste (E)

- HAZARDOUS COMPONENTS -

COMPONENTS	%	CAS #	ACGIH TLV	HAZARD(S)
Isopropanol	28%	67-63-0	400 ppm TWA	Flammable Irritant
Acetic Acid	5%	64-19-7	10 ppm TWA 15 ppm STEL	Combustible Corrosive Irritant
olyvinyl Alcohol	5%	9002-89-5	ND	Irritant
Mercuric chloride	3.4%	7487-94-7	100mg/m^3(skin)TWA	Highly Toxic Corrosive

Mixture not tested as a whole. The mixture is assumed to present the same health hazards as do the components present at ≥ 1.0% (0.1% for carcinogens).

- PHYSICAL AND CHEMICAL DATA -

APPEARANCE: Colorless liquid pH: ND ODOR: alcohol
VAPOR PRESSURE: ND VOLATILE COMPONENTS: ND
EVAPORATION RATE: ND SOLUBILITY IN WATER: Unlimited

- FIRE AND EXPLOSION HAZARD DATA -

FLASH POINT: 77°F
EXTINGUISHING MEDIA: Media appropriate for surrounding fire conditions.
FIRE FIGHTING PROCEDURES: Wear self contained breathing apparatus and protective clothing.
FIRE HAZARDS: May produce hazardous decomposition products.

- REACTIVITY DATA -

STABILITY: Stable HAZARDOUS POLYMERIZATION: No
INCOMPATIBILITY: Strong oxidizing agents, strong base

INCOMPATIBILITY: Strong oxidizing agents, strong bases

- HEALTH HAZARD AND FIRST AID DATA -

EXPOSURE LIMITS: ND

EXPOSURE EFFECTS:
Eye: Irritant
Skin: Irritant
Inhalation: Headache, unconsciousness
Ingestion: Nausea, vomiting, death

FIRST AID: Obtain medical attention
Eye: Flush with water for 15 minutes
Skin: Flush with water for 15 minutes
Inhalation: Remove to fresh air. If breathing has stopped, give artificial respiration.
Ingestion: CALL A PHYSICIAN IMMEDIATELY TO DETERMINE APPROPRIATE TREATMENT!

- HANDLING AND STORAGE -

Wear chemical safety goggles, chemical resistant gloves and protective clothing. Use OSHA approved respirator if TLV exceeded. General mechanical ventilation is usually adequate under normal use. Do not exceed TLV. Containers potentially hazardous when empty. Do not reuse.

- SPILL AND DISPOSAL PROCEDURES -

SPILL: Absorb on paper, vermiculite, etc.
WASTE DISPOSAL: Consult federal, state and local regulations.

NA Not Applicable
ND Not Determined

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Meridian Diagnostics shall not be held liable for any damage resulting from handling or from contact with the above product.

MATERIAL SAFETY DATA SHEET

MERIDIAN DIAGNOSTICS, INC.
171 River Hills Drive
Cincinnati, OH 45244
(513) 271-3700

ADDITIONAL INFORMATION
SAFETY OFFICER
(513) 271-3700
Date of Preparation 04/11/97

- IDENTIFICATION -

NAME: Para-Pak SAF — Catalog #s: 900212, 300212, 300412, 330310, 400401, 400412, 910220, 910212 990260

NAME: Para-Pak PLUS SAF — Catalog #: 950250
Para-Pak Ultra SAF — Catalog #s: 380212, 980212
Fekal SAF — Catalog #: FK1212, FK12SF

SYNONYM: Sodium acetate-acetic acid-formalin fixative
FORMULA: Mixture CAS #: NA
EPA HAZARDOUS WASTE ID #: Formaldehyde U122
EPA HAZARD WASTE CLASS: Formaldehyde T-Toxic Waste

- HAZARDOUS COMPONENTS -

COMPONENTS	%	CAS #	ACGIH TLV	HAZARD(S)
Formaldehyde	1.6	0050-00-0	2ppm TWA 1ppm PEL	Corrosive Toxic Sensitizer Carcinogen Irritant
Acetic Acid	2.0	64-19-7	10ppm TWA	Corrosive Irritant

Mixture not tested as a whole. The mixture is assumed to present the same health hazards as do the components present at ≥ 1.0% (0.1% for carcinogens).

- PHYSICAL AND CHEMICAL DATA -

APPEARANCE: Clear liquid pH: ND ODOR: Pungent
VAPOR PRESSURE: ND VOLATILE COMPONENTS: ND
EVAPORATION RATE: ND SOLUBILITY IN WATER: Unlimited

- FIRE AND EXPLOSION HAZARD DATA -

FLASH POINT: 133°F
EXTINGUISHING MEDIA: Media appropriate for surrounding fire conditions.
FIRE FIGHTING PROCEDURES: Wear self contained breathing apparatus and protective clothing.
FIRE HAZARDS: May produce hazardous decomposition products.

- REACTIVITY DATA -

STABILITY: Stable HAZARDOUS POLYMERIZATION: None
INCOMPATIBILITY: Strong acids or bases

- HEALTH HAZARD AND FIRST AID DATA -

EXPOSURE LIMITS: ND

EXPOSURE EFFECTS:
Eye: Irritant, tearing, eye damage, burning
Skin: Irritant
Inhalation: Coughing, wheezing, laryngitis, shortness of breath, headache
Ingestion: Nausea, vomiting, collapse and unconsciousness

FIRST AID: Contact a physician immediately
Eye: Flush with water for 15 minutes
Skin: Flush with water for 15 minutes
Inhalation: Remove to fresh air immediately. If breathing stops, give artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Contact a physician immediately.
Ingestion: CONTACT A PHYSICIAN IMMEDIATELY TO OBTAIN THE APPROPRIATE EMERGENCY TREATMENT

- HANDLING AND STORAGE -

Wear chemical safety goggles, chemical resistant gloves and protective clothing. Use OSHA approved respirator if TLV exceeded. General mechanical ventilation is usually adequate under normal use. Do not exceed TLV. Containers potentially hazardous when empty. Do not reuse.

- SPILL AND DISPOSAL PROCEDURES -

SPILL: Absorb on paper, vermiculite, etc.
WASTE DISPOSAL: Consult federal, state and local regulations.

NA Not Applicable
ND Not Determined

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Meridian Diagnostics shall not be held liable for any damage resulting from handling or from contact with the above product.

1 - Site Specific Information

FLAMMABLE STORAGE

2 - Section I (General Information)

MANUFACTURER'S NAME: SOLUTIONS DEPARTMENT SOUTHERN CALIFORNIA PERMANENTE

EMERGENCY TELEPHONE NUMBER: 818-503-6840(DAY) 818-503-6562(SECURITY)

ADDRESS (NUMBER,STREET,CITY,STATE,ZIP): 11668 SHERMAN WAY N.HOLLYWOOD 91605

CHEMICAL NAME AND SYNONYMS: 50% REAGENT ALCOHOL

DISCLAIMER: CONSULT INDIVIDUAL MSDS FOR FURTHER DETAILS.

- Section II - Hazardous Ingredients

MATERIAL	%	CAS#
REAGENT ALCOHOL	50.0	N/A
H2O	50.0	N/A

4 - Section III - Solutions Department Hazard Codes

CLOTHING	EYEWEAR	GLOVES	RESP.OR FUMEHOOD	H	C	R	F
X	X	X	X	3	2	2	4

SPECIAL HAZARD RATING: REPRODUCTIVE TOXIN

5 - Section IV - Storage and Stability

STORAGE: ROOM TEMPERATURE

STABILITY: 3 YEARS

Richard-Allan Medical Industries
PRODUCT SAFETY DATA SHEET

SECTION I - GENERAL INFORMATION

PRODUCT	: 10% Neutral Buffered Formalin, v/v
CHEMICAL NAME	: Same as above
CHEMICAL FAMILY	: Aldehyde
COMPANY	: Richard-Allan Medical Industries, Inc. P.O. Box 351 Richland, MI 49083
BUSINESS TELEPHONE	: (616) 385-4466
TRANSPORTATION EMERGENCIES:	Call CHEMTREC (800) 424-9300

SECTION II - HAZARDOUS INGREDIENTS

	%	TLV	ACCREDITING AGENCY
37% Formaldehyde - Stabilized with methanol (11% v/v)	10	3ppm	NIOSH

SECTION III - PHYSICAL DATA

APPEARANCE AND ODOR	: Clear colorless liquid; pungent odor
BOILING POINT (°F)	: 204° - 211°
EVAPORATION RATE (Butyl Acetate = 1)	: 0.43
PERCENT VOLATILE BY VOL.	: 98%
SOLUBILITY IN WATER	: 100% - Complete
CIFIC GRAVITY (WATER = 1)	: 1.109 @ 21° C
VAPOR DENSITY (Air=1)	: 1.1
VAPOR PRESSURE (mm of Hg)	: 19

011412

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (METHOD USED) Pensky-Martens	: None observed below 130°F - 82°C
FLAMMABLE LIMITS IN AIR, % BY VOLUME	: LOWER 7 UPPER 73
EXTINGUISHING MEDIA	: Alcohol Resistant foam, dry chemicals, carbon dioxide, water spray
UNUSUAL FIRE AND EXPLOSION HAZARDS	: None at normal temperatures
FIRE FIGHTING PROCEDURES	: Cooling container with water spray or fog will help to absorb escaping fumes. Evacuate affected areas. Stay upwind and avoid contact with smoke and fumes. If contact cannot be avoided, wear personal protective equipment (see Page 4) including chemical splash goggles and air mask with breathing air supply.

SECTION V - REACTIVITY DATA

STABILITY	: Stable
INCOMPATIBILITY	: Solutions of formaldehyde with phenol react violently when acids or strong alkalis are added. Formaldehyde and hydrochloric acid may form bis-chloromethyl ether.
HAZARDOUS DECOMPOSITION	: Formldehyde gas is released
HAZARDOUS POLYMERIZATION	: None

SECTION VI - HEALTH DATA

SKIN EFFECTS : Avoid contact. Solution is a sensitizer and allergic skin reaction can occur with repeated exposure.

EYE EFFECTS : Causes eye burns; effects may be delayed. Blindness can occur if solution is swallowed.

SYSTEMIC EFFECTS : Ingestion irritates mouth, throat and gastro-intestinal tract, resulting in nausea and vomiting.

SECTION VII - FIRST AID PROCEDURES

SKIN CONTACT : In case of skin contact, immediately flush with plenty of water for at least 15 minutes. Remove contaminated clothing.

EYE CONTACT : In case of eye contact, immediately flush eyes with plenty of water for at 15 minutes. Call a physician.

INHALATION : If affected by vapors, move patient to fresh air immediately. Call a physician. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is difficult, administer oxygen.

INGESTION : If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Repeat until vomit is clear. Call a physician. Never give anything by mouth to an unconscious person.

SAFETY DATA SHEET

SECTION VIII - SPECIAL PROTECTION

VENTILATION : Adequate to keep formaldehyde concentration below indicated exposure limit. If limits may be exceeded, use air masks with breathing air supply.

PERSONAL PROTECTIVE EQUIPMENT: Use chemical splash goggles, neoprene or polyvinyl chloride gloves, coveralls with long sleeves, hard hat, and safety shoes with neoprene or PVC soles. Use breathing air supply from airline mask or self-contained breathing mask if exposure limits are exceeded.

SECTION IX - SPILL PROCEDURES

STEPS TO TAKE IN CASE OF RELEASE OR SPILL : Keep upwind of leak; evacuate area until gas has dispersed. Soak up small leaks with rags or other absorbent and remove in covered metal containers or drums. Dike large spills. Neutralize with dilute (5%) solutions of ammonia, sodium sulfite, or sodium bisulfite and remove. Flush spill area with plenty of water.

WASTE DISPOSAL METHOD : Comply with federal, state and local regulations. If approved, flush to chemical sewer, incinerate, dispose in sanitary landfill, or flush to waste water treatment system. Very dilute solutions can be handled by biochemical action in formaldehyde-adapted waste treatment systems; water spray or fog will help absorb escaping fumes.

SECTION X - SHIPPING INFORMATION

STORAGE CONDITIONS : Keep container closed. Keep away from heat and open flame. Do not store below 15° C (59° F).

TRANSPORTATION : DOT Shipping Name - Formaldehyde or Formalin Solution
DOT Hazard Class - ORMA (in containers of 110 gallons or less)

SHIPPING CONTAINERS : Drums, Cubitainers, Bottles

Richard-Allan believes the information herein to be correct and factual as of the issue date hereof. This information is furnished on the condition that the person receiving it shall make the determination as to the suitability of the material for his/her particular purpose and on the condition that he/she assume the risk of use thereof.

ISSUE DATE: Aug 30 1984 SIGNED: [illegible] Powell

011415

MSDS

Chemicals

by Vendors

Book 4/4

011443

2003 Chemical Inventory for: Special Chemistry Department
Sorted by: Manufacturer/Vendor

Chemical Name/Trade Name	Synonyms	Cat. No./CAS No.	Manufacturer / Vendor	MSDS Issue Date	Revision Dates	Prop 65 Chemical?
Activated Alumina	N/A	Cat No: H026-00-050	Edwards	5/1/03	12/1/03	None
Inland 45 Vacuum Pump Oil	Inland 45	Cas No: 68037-01-4	Edwards	5/1/03	1/1/01	None
Clear Bath Algicide	N/A	Cat No: 13-641-336	Fisher Scientific	4/1/03	8/2/00	None
Sparkleen 1	N/A	N/A	Fisher Scientific	4/1/03	8/2/200	None
Setpoint ETOH Stds 0.5 mg/mL	CAP Standards	Cat No: 23-750053	Fisher Scientific / EM Science	5/1/03	1/7/03	None
Setpoint ETOH Stds 1.0 mg/mL (See Alcohol-Standard Solution)	CAP Standards	Cat NO: 23-750054	Fisher Scientific / EM Science	5/1/03	10/27/97	None
Setpoint ETOH Stds 1.5 mg/mL (See Alcohol-Standard Solution)	CAP Standards	Cat No: 23-750055	Fisher Scientific / EM Science	5/1/03	10/27/97	None
Setpoint ETOH Stds 3.0 mg/mL (See Alcohol-Standard Solution)	CAP Standards	Cat No: 23-750057	Fisher Scientific / EM Science	5/1/03	10/27/97	None

011444

2003 Chemical Inventory for: Special Chemistry Department
Sorted by: Manufacturer/Vendor

Chemical Name/Trade Name	Synonyms	Cat. No./CAS No.	Manufacturer / Vendor	MSDS Issue Date	Revision Dates	Prop 65 Chemical?
AA2 Hemo Control	N/A	Cat No: 5328	Helena Laboratories	5/1/03	N/A	None
AFSC Hemo Control	N/A	Cat No: 5331	Helena Laboratories	5/1/03	N/A	None
Citrate Buffer	N/A	Cat No: 5121	Helena Laboratories	5/1/03	N/A	None
Clear Aid	N/A	Cat No: 5005	Helena Laboratories	5/1/03	N/A	None
Electra HR Buffer	N/A	Cat No: 5805	Helena Laboratories	5/1/03	1/9/92; 1/23/90	None
ImmunoFix Antisera Kit II	N/A	Cat No: 3151	Helena Laboratories	5/1/03	6/12/01	None
ImmunoFix Control	IFE Control Kit	Cat No: 9400	Helena Laboratories	5/1/03	N/A	None
Kemtrol Serum Control - Abnormal	Kemtrol Abnormal	Cat No: 7025	Helena Laboratories	5/1/03	N/A	None
Kemtrol Serum Control- Normal	Kemtrol Normal	Cat No: 7024	Helena Laboratories	5/1/03	N/A	None
Rep Prep	N/A	Cat No: 3100	Helena Laboratories	5/1/03	12/6/91	None
SPIFE Acid Violet Stain (See SPIFE Immunofixation-6 Kit #3401)	N/A	Cat No: 3401	Helena Laboratories	5/1/03	9/18/00	None
SPIFE Citric Acid Destain (See SPIFE Immunofixation-6 Kit #3401)	N/A	Cat No: 3401	Helena Laboratories	5/1/03	9/18/00	None
SPIFE IFE Kappa Chain (See ImmunoFix Antisera Kit II)	Titan Gel IFE Kappa Chain; Kappa Antisera	Cat No: 551200	Helena Laboratories	5/1/03	6/12/01	None
SPIFE IFE Lambda Chain (See ImmunoFix Antisera Kit II)	Titan Gel IFE Lambda Chain; Lambda Antisera	Cat No: 551201	Helena Laboratories	5/1/03	6/12/01	None
SPIFE IFE-6 Antisera Kit (See SPIFE Immunofixation-6 Kit #3401)	N/A	Cat No: 551822	Helena Laboratories	5/1/03	9/18/00	None
SPIFE ImmunoFixation-6 Kit	SPIFE ImmunoFix-6 Kit	Cat No: 3401	Helena Laboratories	5/1/03	9/18/00	None

011445

2003 Chemical Inventory for: Special Chemistry Department
Sorted by: Manufacturer/Vendor

Chemical Name/Trade Name	Synonyms	Cat. No./CAS No.	Manufacturer / Vendor	MSDS Issue Date	Revision Dates	Prop 65 Chemical?
SPIFE Kappa Chain (See SPIFE Immunofixation-6 Kit #3401)	N/A	Cat No: 551819	Helena Laboratories	5/1/03	9/18/00	None
SPIFE Lambda Chain (See SPIFE Immunofixation-6 Kit #3401)		Cat No: 551821	Helena Laboratories	5/1/03	9/18/00	None
SPIFE Protein Fixative (See SPIFE Immunofixation-6 Kit #3401)	SPIFE IFE-6 Protein Fixative	Cat No: 3401	Helena Laboratories	5/1/03	9/18/00	None
SPIFE Tris-Buffered Saline	N/A	N/A	Helena Laboratories	5/1/03	N/A	None
Supre-Heme CRJ Buffer	N/A	Cat No: 5802	Helena Laboratories	5/1/03	10/16/02	None
Sure Prep	N/A	Cat No: 1574	Helena Laboratories	5/1/03	2/28/94	None
Titan Gel IFE Buffer (See Titan Gel Immunofix-Plus Kit #3067)	N/A	Cat No: 3067	Helena Laboratories	5/1/03	9/12/02; 01/01/89	None
Titan Gel IFE Free Kappa Light Chain Antisera	IFE Antisera to Free Kappa Light Chain; Free Kappa Light Chain Antisera	Cat No: 9412	Helena Laboratories	5/1/03	N/A	None
Titan Gel IFE Free Lambda Light Chain Antisera	IFE Antisera to Free Lambda Light Chain; Free Lambda Light Chain Antisera	Cat No: 9413	Helena Laboratories	5/1/03	N/A	None
Titan Gel IFE IgD	IFE Antisera to IgD; IgD Titan Gel Antisera	Cat No: 9409	Helena Laboratories	5/1/03	N/A	None
Titan Gel IFE IgE	IFE Antisera to IgE; IgE Titan Gel Antisera	Cat No: 9410	Helena Laboratories	5/1/03	N/A	None
Titan Gel IFE IgG (See ImmunoFix Control #9400)	IgG/kappa	Cat No: 9400	Helena Laboratories	5/1/03	N/A	None
Titan Gel ImmunoFix-Plus Gel (See Titan Gel ImmunoFix-Plus Kit #3067)	N/A	Cat No: 3067	Helena Laboratories	5/1/03	9/12/02	None
Titan Gel Immunofix-Plus Kit	N/A	Cat No: 3067	Helena Laboratories	5/1/03	9/12/02	None

011446

2003 Chemical Inventory for: Special Chemistry Department

Sorted by: Manufacturer/Vendor

Chemical Name/Trade Name	Synonyms	Cat. No./CAS No.	Manufacturer / Vendor	MSDS Issue Date	Revision Dates	Prop 65 Chemical?
Titan Gel ImmunoFix-Plus Stain (See Titan Gel ImmunoFix-Plus Kit #3067)	Acid Blue Stain	Cat No: 3067	Helena Laboratories	5/1/03	9/12/02	None
DRI Ecstasy Assay (See DRI Ecstasy Urine Calibrators and Controls)	DRI Ecstasy Enzyme Immunoassay	Cat No: 1000075	Microgenics Products	5/1/03	7/1/01	None
DRI Ecstasy Calibrator (See DRI Ecstasy Urine Calibrators and Controls)	DRI Ecstasy Urine Calibrators	Cat No: 1000081	Microgenics Products	5/1/03	7/1/01	None
DRI Ecstasy Control (Normal & Abnormal) (See DRI Ecstasy Urine Calibrators and Controls)	DRI Ecstasy Urine Controls	Cat No: 1000078	Microgenics Products	5/1/03	7/1/01	None

011447

2003 Chemical Inventory for: Special Chemistry Department
Sorted by: Manufacturer/Vendor

Chemical Name/Trade Name	Synonyms	Cat. No./CAS No.	Manufacturer / Vendor	MSDS Issue Date	Revision Dates	Prop 65 Chemical?
Calcium Standard Solution	N/A	Cat No: 3109a	NIST	5/1/03	7/16/01	None
Copper Spectrometric Solution	N/A	Cat No. 3114	NIST	5/1/03	2/22/99	None
Lithium Standard Solution	N/A	Cat No. 3129a	NIST	5/1/03	9/13/00	None
Zinc Standard Solution	N/A	Cat No. 3168a	NIST	5/1/03	9/13/00	None
Olympus AU640 Wash Solution	N/A	Cat No: OSR0001	Olympus	5/1/03	4/1/00	None
PFTBA Calibration Gas	N/A	Cat No: N621-2407	Perkin Elmer	5/1/03	2/22/02	None
Pump Oil (See Edwards High Vacuum Oil)	N/A	Cat No: E640-3492	Perkin Elmer	5/1/03	8/1/96	None
ACE Calibrator	N/A	Cat No: 30550	Sigma Diagonostics	5/1/03	10/7/02	None
ACE Elevated Control	N/A	Cat No: A7040	Sigma Diagonostics	5/1/03	10/7/02	None
ACE Normal Control	N/A	Cat No: A6040	Sigma Diagonostics	5/1/03	10/7/02	None
ACE Reagent	N/A	Cat No: 305-10	Sigma Diagonostics	5/1/03	9/6/02	None
G6PDH Deficient Control (6X0.5mL)	Glucose-6-Phosphate Dehydrogenase Control Deficient	Cat No: G5888	Trinity Bio Tech.	5/1/03	9/1/03	None
G6PDH Reagent	Trizma Buffer Solution; G-6-PDH Screening Test Kit	Cat No: 203-A	Trinity Bio Tech.	5/1/03	11/6/02	None
5 FC HR (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	5-Fluorocytosine High-Range	Cat No: FLU 5 HR	Utak Laboratories	5/1/03	11/1/01	None
5 FC MR (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	5-Fluorocytosine Mid-Range	Cat No: FLU 5 MR	Utak Laboratories	5/1/03	11/1/01	None
Benzodiazepines High-Range (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	Controls & Calibrators	Cat No: 22613	Utak Laboratories	5/1/03	11/1/01	None
Benzodiazepines Mid-Range (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	Controls & Calibrators	Cat No: 22614	Utak Laboratories	5/1/03	11/1/01	None
Custom TMP/SMOX HR (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	Trimethoprim / Sulfamethoxazole HR	Cat No: TRI/SUL HR	Utak Laboratories	5/1/03	11/1/01	None

011448

Prepared by:Lanni Duong
Safety Coordinator

Date Printed: 06/17/2003
Revision Date: 06/17/2003

2003 Chemical Inventory for: Special Chemistry Department
Sorted by: Manufacturer/Vendor

Chemical Name/Trade Name	Synonyms	Cat. No./CAS No.	Manufacturer / Vendor	MSDS Issue Date	Revision Dates	Prop 65 Chemical?
Custom TMP/SMOX MR (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	Trimethoprim / Sulfamethoxazole MR	Cat No: TRI/SUL MR	Utak Laboratories	5/1/03	11/1/01	None
Defibrinated Human Plasma (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	GC Control (Defibrinated Plasma)	Cat No: 44600-D	Utak Laboratories	5/1/03	11/1/01	None
GC Control HR Custom (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	Gas Chromatography Controls	Cat No: GC HR KPNH	Utak Laboratories	5/1/03	11/1/01	None
GC Control LR Custom (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	Gas Chromatography Controls	Cat No: GC LR KPNH	Utak Laboratories	5/1/03	11/1/01	None
Serum TDM/Toxicology Control (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	N/A	N/A	Utak Laboratories	5/1/03	11/1/01	None
Thiocyanate Control 40 (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	GC Control Abnormal	N/A	Utak Laboratories	5/1/03	11/1/01	None
Trazodone HR (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	N/A	Cat No: 61014	Utak Laboratories	5/1/03	11/1/01	None
Trazodone MR (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	N/A	Cat No: 61015	Utak Laboratories	5/1/03	11/1/01	None
Tricyclic Antidepressant VI High-Range (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	N/A	Cat No: 66316	Utak Laboratories	5/1/03	11/1/01	None
Tricyclic Antidepressant VI Mid-Range (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	N/A	Cat No: 66317	Utak Laboratories	5/1/03	11/1/01	None
Volatile HR (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	Gas Chromatography Controls	Cat No: 88119	Utak Laboratories	5/1/03	11/1/01	None
Volatile LR Custom (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	Gas Chromatography Controls	Cat No: VOL LR KP	Utak Laboratories	5/1/03	11/1/01	None

011449

Prepared by:Lanni Duong
Safety Coordinator

Date Printed: 06/17/2003
Revision Date: 06/17/2003

2003 Chemical Inventory for: Special Chemistry Department
Sorted by: Manufacturer/Vendor

Chemical Name/Trade Name	Synonyms	Cat. No./CAS No.	Manufacturer / Vendor	MSDS Issue Date	Revision Dates	Prop 65 Chemical?
Volatile Reagent A (See Serum TDM/Toxicology Control MSDS 22610-98813 & Custom)	N/A	N/A	Utak Laboratories	5/1/03	11/1/01	None
Toxi-Control THC (See Toxi-Lab Products Non-Hazardous List)	N/A	Cat No: 208-3	Varian, Inc.	5/1/03	N/A	None
Toxi-Dip THC-1 Reagent	THC-1 Fast Blue BB Solution	Cat No: 208-1	Varian, Inc.	5/1/03	9/13/02; 05/27/87	None
Toxi-Discs THC Standard (See Toxi-Lab Products Non-Hazardous List)	N/A	Cat No: 208-2	Varian, Inc.	5/1/03	N/A	None
Toxi-Lab THC Screen Hydrolysis Reagent (11.8N KOH)	N/A	Cat No: 207-4	Varian, Inc.	5/1/03	9/13/02; 11/1/85	None

011450

Prepared by:Lanni Duong
Safety Coordinator

Date Printed: 06/17/2003
Revision Date: 06/17/2003

Edwards

011451

BOC EDWARDS

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : ALUMINA GRADE A (ACTIVATED ALUMINA)

1. Product and Company Identification

Product Name: Activated alumina

Synonyms: Activated alumina sorbent,

Item Numbers : H026-00-050

European Contact Details

BOC Edwards, Manor Royal, Crawley,
West Sussex, RH10 2LW, England
General enquiries
UK : +44 (0)1293 528844
France : +(33) 1 47 98 24 01
Germany : +(49) 89-991918-0
Italy : +(39) 0248-4471

US Contact Details

BOC Edwards, 301 Ballardvale Street,
Wilmington, MA 01887
General enquiries
+(1) 978-658-5410
Toll Free: 1-800-848-9800

24 h Emergency telephone number:
Chemtrec : 1-800-424-9300

2. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Activated alumina (partially hydrated aluminium oxide)	100	1344-28-1	Not applicable	Not applicable

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive (67/548/EEC, as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as "Not applicable".

3. Hazards Identification

EMERGENCY OVERVIEW

This material when properly handled according to good working and hygienic practices is not dangerous to human health and the environment.

However, the material is primarily used as a gas/vapour sorbent. Care should be taken when handling sorbent that has been used in processes involving, corrosive, toxic, flammable, explosive, pyrophoric gases/vapours. Precautions must take account of the hazards associated with the process materials.

For short and long term exposure effects see Section 11 Toxicological data.

Eye Effects: Dust may cause irritation.

Skin Effects: May cause irritation.

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The stripe symbol is a trade mark of the BOC Group

PRODUCT NAME : ALUMINA GRADE A (ACTIVATED ALUMINA)

Ingestion/Oral Effects: No effects established. Material is non toxic.

Inhalation Effects: Dust may cause mildirritation of the respiratory tract.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Excessive dust inhalation may aggravate pre-existing lung conditions.

NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	1	Health	1	0 = No Hazard
Flammability	0	Flammability	0	1 = Slight hazard
Instability	0	Reactivity	0	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe hazard

4. First Aid Measures

Eyes: If dust enters the eye, flush with plenty of water. If irritation persists, seek medical advice.

Skin: Wash with plenty of water *.

Ingestion/Oral: Give water to drink. Seek medical advice *.

Inhalation: After dust inhalation, remove to fresh air *. If breathing problems occur a qualified individual should administer oxygen or artificial respiration as indicated. Seek immediate medical attention.

Other Information: * If the material is contaminated with process residue, seek medical advice appropriate to the materials involved in the process.

5. Fire Fighting Measures

Extinguishing Media: Material does not burn. Use extinguishing media appropriate to other materials in the locality.

Fire and Explosion Hazard: Not applicable.

Special Protective Equipment for Fire Fighters: Not applicable.

For Flammability Properties - see Section 9

6. Accidental Release Measures

Sweep up spilt material. If there is significant dust content, wear respiratory protection and dampen to avoid raising dust.

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7. Handling and Storage

Handling: avoid raising dust.

Storage: store in clean, dry, air tight containers.

8. Exposure Controls/Personal Protection

Exposure Limits

Ingredient	ACGIH – TLV	OSHA – PEL	Occupational Exposure Limits EH40 (UK)
Activated alumina	10 mg/m^3**	15 mg/m^3 (total) 5 mg/m^3 (respirable)	10mg/m^3 (total dust) TWA 5mg/m^3 (respirable dust)

** Value is for particulate matter containing no asbestos and < 1% crystalline silica.

Personal Protection:

Engineering Measures:	None required.
Respiratory Protection:	Wear dust mask where the material includes significant dust.
Hand/Skin Protection:	Wear gloves.
Eye/Face Protection:	Wear goggles.
Hygiene Measures:	Practice good workplace hygiene.Do not eat or smoke when handling. Wash hands after handling and before eating.
Other/General Protection:	None.

9. Physical and Chemical Properties

Appearance and Odour	Odourless white balls or granules	Boiling Point	Not applicable	°C/°F
pH (as supplied)	Neutral to slightly alkaline reaction in water	Melting Point	2050/3722	°C/°F
Solubility in Water	Insoluble	Auto Ignition	Not applicable	°C/°F
Volatile Content by Volume	None. Material does absorb gases/vapours which may subsequently be released	Flash Point	Not applicable	°C/°F
Specific Gravity	0.8			
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

10. Stability and Reactivity

Stability:	Stable
Material/Conditions to Avoid:	None known.
Hazardous Decomposition:	None.

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PRODUCT NAME : ALUMINA GRADE A (ACTIVATED ALUMINA)

Toxicological Information

For a comprehensive description for the various toxicological (health) effects which may arise if the user comes into contact with the substane or preparation refer to Section 3 Hazards Identification.

Animal Data:

LD50 value: No data available.

LC50 value: No data available.

Carcinogenicity:

No known carcinogenic hazardous effects.

12. Ecological Information

Aluminium oxides possess low water solubility. They are chemically inert. In small amounts they are unlikely to pose a threat to aquatic life.

13. Disposal Considerations

Dispose of according to national and local regulations. Material is not classified as hazardous, dangerous or toxic. Approved landfill sites can be used.

14. Transport Information

This product is not classified as dangerous under transport regulations.

PARAMETER	EUROPEAN	CANADIAN TDG	UNITED STATES DOT
Proper Shipping Name	Not applicable	Not applicable	Not applicable
Hazard Class	Not applicable	Not applicable	Not applicable
Identification Number	Not applicable	Not applicable	Not applicable
Shipping Label	Not applicable	Not applicable	Not applicable

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with the Dangerous Substances Directive (67/548/EEC, as amended) and the Preparations Directive (88/379/EEC, as amended), implemented in the UK as the Chemical (Hazard Information and Packing) Regulations 1994 (CHIP, as amended).

Classified as dangerous to supply : No

Risk Phrases : Not applicable

Safety Phrases : Not applicable

Symbols : None

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The stripe symbol is a trade mark of the BOC Group

PRODUCT NAME : ALUMINA GRADE A (ACTIVATED ALUMINA)

United States Regulatory Information

All ingredients contained in this product are included on the EPA TSCA Chemical Substance Inventory.

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:

This product does not contain toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and 40 CFR Part 372.

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

Canadian Regulatory Information

All ingredients contained in this product are included on the Canadian DSL.

WHMIS Classification: Not Classified

16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and the EU Safety Data Sheet Directive 91/155/EEC.

Source of information for this data sheet:

- GeeJay Chemicals Material Safety Data Sheet for Activated alumina. Reference ALUMINA. SDS 1. 98.

Glossary : **CAS**, Chemical Abstracts Service; **NFPA**, National Fire Protection Association; **HMIS**, Hazardous Material Information Service; **LD**, Lethal Dose; **LC**, Lethal Concentration; **ACGIH**, American Conference of Governmental Industrial Hygienists; **TLV**, threshold limit value; **OSHA**, Occupational Safety and Health Administration, US department of Labour; **PEL**, permissible exposure limit; **EH40 (UK),** HSE Guidance Note EH40 Occupational exposure limits; **PPM,** parts per million; **TWA**, Time-Weighted Average; **STEL**, Short Term Exposure Limit; **Canadian TDG,** Canadian Transportation of Dangerous Goods; **US DOT**, US Department of Transportation. **HSDB**, Hazardous Substances Data Bank; **RTECS**, Registry of Toxic Effects of Chemical Substances; **CHEMID**, Chemical Identification; **DSL**, Domestic Substances List; **TSCA,** Toxic Substances Control Act Public Law 94-469: **CERCLA,** Comprehensive Environmental Response, Compensation and Liability Act; **EPCRA**. Emergency Planning and Community Right-to-Know Act; **CAA,** Clean Air Act; US, **SARA (Title III)**, Superfund Amendments and Reauthorization Act.; **SARA 313**, Superfund Amendments and Reauthorization Act, Section 313; **EHS,** Extremely Hazardous Substance; **WHMIS**, Workplace Hazardous Materials Information System.

Revisions

Although the information and recommendations in this data sheet are to the best of our knowledge correct, it is recommended that you make your own determination of the material's suitability for your purpose before you use it. The information contained in this data sheet has been reproduced from the manufacturers data, the accuracy of this information is the responsibility of the manufacturer. BOC Edwards accept no responsibility for damage of any nature resulting from the use of, or the reliance upon this data sheet.

Inland 45

Material Safety Data Sheet
Revision Date January 2001
For Chemical Emergency Call Chemtrex 800-424-9300

1. Substance/Company Identification

PRODUCT NAME: **Inland 45**
CAS NUMBER: 68037-01-4
MANUFACTURER: Inland Vacuum Industries
Churchville NY 14428
(716) 293-3330

2. Composition/ Ingredients

GENERIC NAME: 100% Synthetic Aliphatic Hydrocarbon
CHEMICAL FORMULA: (CH2)n 20 =< n =< 40
HAZARDOUS INGREDIENTS: None

3. Hazards Identification

POSSIBLE ENTRY ROUTES: Ingestion, inhalation of oil mists
This product is not classified as hazardous.
ACUTE EFFECTS: Ingestion: non-toxic, Eyes: not an irritant, Skin: Not a primary irritant or corrosive, Inhalation: Non-hazarsous in normal use
CHRONIC EFFECTS: Unknown.

4. First Aid Measures

SKIN: Wash with soap and water.
EYES: Flush with water. Contact a physician.
INGESTION: Do not induce vomiting. Not expected to be a problem when ingested. Contact a physician. Small amounts in mouth may be washed out.

5. Fire Fighting Measures

FLASH POINT: >268 C
METHOD USED: Cleveland Open Cup
EXPLOSIVE LIMITS LOWER: Unknown UPPER: Unknown
EXTINGUISHING MEDIA: Water fog, chemical foam or carbon dioxide. NFPA Class III B Material.
SPECIAL FIREFIGHTING PROCEDURES: Wear breathing gear when fighting fires in enclosed spaces; incomplete combustion of this material produces carbon monoxide!
UNUSUAL FIRE AND/OR EXPLOSION HAZARDS: Firefighters should wear self-contained breathing apparatus in the positive-pressure mode with a full face piece when there is a possibility of exposure to smoke, fumes or hazardous decomposition prducts.

6. Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN EVENT OF RELEASE: Small spills may be wiped up with a rag. Large spills should be picked up immediately with an absorbent.

7. Handling and Storage

HANDLING: None known
STORAGE: None known

8. Exposure Controls/Personal Protection

ENGINEERING CONTROL MEASURES: None required
RESPIRATORY PROTECTION: See notes on ventilation below.
PROTECTIVE GLOVES: Yes - made of oil-impermeable rubber
SAFETY GLASSES/GOGGLES: Yes - glasses should have side shields
OTHER PROTECTIVE EQUIPMENT: None should be required under normal use.

9. Physical & Chemical Properties

PHYSICAL STATE: Liquid
VAPOR PRESSURE: < .0001 Torr @ 25C
BOILING POINT: 455 C
EVAPORATION RATE (ether = 1): Nil
VAPOR DENSITY: approximately 14
WT % VOLATILES: Nil
SPECIFIC GRAVITY: 0.83
VISCOSITY: 53 cst @ 40 C
SOLUBILITY IN WATER: Nil
APPEARANCE: Colorless liquid with no odor

10. Stability & Reactivity

STABILITY: Material is stable
CONDITIONS TO AVOID: Continuous exposure to temperatures > 200 C
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers
HAZARDOUS DECOMPOSITION PRODUCTS: Incomplete combustion may produce carbon monoxide.
HAZARDOUS POLYMERIZATION: None likely

11. Toxicological Information

ACUTE ORAL LD50(mg/kg): greater than 5.0g/kg(rats) The material is not classified as toxic by oral administration as defined in 16 CFR 1500.
ACUTE DERMAL: The primary irritation index was found to be 0.5(scale0-8) based on erythema and edema.No evidence of tissue damage was found. The material is not classified as a primary irritant or as a corrosive by dermal application as defined by 16 CFR 1500.
ACUTE INHALATION LD50(mg/l: 4.68(rats) for 1 hour. Would be difficult to work in this heavy mist. May be considered non-hazarsous, by inhalation, for all practical purposes.

12. Ecological Information

ENVIRONMENTAL: When used and/or disposed of as indicated, no adverse environmental effects are foreseen.
MOBILITY: Non-volatile and insoluble in water.
DEGRADABILITY: Slowly biodegradable in aerobic conditions.

13. Disposal Considerations

Product and packaging must be disposed of in accordance with Federal, State and local regulations.

14. Transport Classification

Not classified as hazardous for transport by air, sea or road.

15. Regulatory Information

None

16. Other Information

NFPA RATING

FLAMMABILITY	1
HEALTH HAZARD	0
REACTIVITY	0
SPECIAL HAZARD	NONE

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**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Bath Clear
Catalog Numbers:
13-641-336, 13641336
Synonyms:
None
Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
102-71-6	Triethanolamine	31.0	203-049-8
141-43-5	Ethanolamine	19.0	205-483-3
7732-18-5	Water	Balance	231-791-2
12069-69-1	Copper(II) carbonate hydroxide	3.07	235-113-6
31075-24-8	n-alkyl dimethyl benzyl ammonium chlor	26.0	unlisted

Hazard Symbols: XN C
Risk Phrases: 21/22 34

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: Not available.
Danger! Harmful if absorbed through the skin. Corrosive. May be harmful if swallowed. May cause central nervous system depression. Causes eye and skin burns. May cause liver and kidney damage. May cause severe respiratory and digestive tract irritation with possible burns.
Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects

Eye:
Causes eye burns.

Skin:
Harmful if absorbed through the skin. Causes skin burns.

Ingestion:
May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause liver and kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May be harmful if swallowed.

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Inhalation:

May cause effects similar to those described for ingestion. May cause drowsiness, unconsciousness, and central nervous system depression. May cause severe respiratory tract irritation and possible burns.

Chronic:

No information found.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.

Skin:

Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. Destroy contaminated shoes.

Ingestion:

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician:

Treat symptomatically and

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff from fire control or dilution water may cause pollution.

Extinguishing Media:

Use water spray to cool fire-exposed containers. Use carbon dioxide, water spray, or dry chemical.

Autoignition Temperature:Not applicable.
Flash Point: Not applicable.
Explosion Limits, lower:Not available.
Explosion Limits, upper:Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale.

Storage:

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Triethanolamine	5 mg/m3	none listed	none listed
Ethanolamine	3 ppm; 6 ppm STEL	3 ppm TWA; 8 mg/m3 TWA 30 ppm IDLH	3 ppm TWA; 6 mg/m3 TWA
Water	none listed	none listed	none listed
Copper(II) carbonate hydroxide	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists, as Cu) (listed under ** no name **).	1 mg/m3 TWA (dusts and mists); 0.1 mg/m3 TWA (fume) (listed under ** no name **).1 mg/m3 TWA (as Cu) (listed under ** no name **).100 mg/m3 IDLH (dusts and mists) (listed under ** no name **).	0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists) (listed under ** no name **).
n-alkyl dimethyl benzyl ammonium chloride	none listed	none listed	none listed

OSHA Vacated PELs:

Triethanolamine:

No OSHA Vacated PELs are listed for this chemical.

Ethanolamine:

3 ppm TWA; 8 mg/m3 TWA

Water:

No OSHA Vacated PELs are listed for this chemical.

Copper(II) carbonate hydroxide:

0.1 mg/m3 TWA (fume, dusts, mists as Cu) (listed under ** no name **)

n-alkyl dimethyl benzyl ammonium chloride:
No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State:	Liquid
Color:	Not available.
Odor:	weak odor
pH:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Evaporation Rate:	Not available.
Viscosity:	Not available.
Boiling Point:	Not available.
Freezing/Melting Point:	Not available.
Decomposition Temperature:	
Solubility in water:	
Specific Gravity/Density:	
Molecular Formula:	
Molecular Weight:	

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable.

Conditions to Avoid:
Incompatible materials, ignition sources, acids, excess heat, strong acids, strong oxidants, nitrites.

Incompatibilities with Other Materials:
Ethanolamine is incompatible with strong oxidizing agents, acids, and bases. It attacks some forms of plastics, rubber and coatings. Avoid contact with strong acids and nitrites.

Hazardous Decomposition Products:
Nitrogen oxides, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 102-71-6: KL9275000
CAS# 141-43-5: KJ5775000
CAS# 7732-18-5: ZC0110000
CAS# 12069-69-1: GL6910000
CAS# 31075-24-8 unlisted.

LD50/LC50:
CAS# 102-71-6: Draize test, rabbit, eye: 20 mg Severe; Draize test, rabbit, eye: 10 mg Mild; Draize test, rabbit, skin: 560 mg/24H Mild; Oral, mouse: LD50 = 5846 mg/kg; Oral, rabbit: LD50 = 2200 mg/kg; Oral, rat: LD50 = 4920 uL/kg; Skin, rabbit: LD50 = >20 mL/kg; Skin, rat: LD50 = >16 mL/kg.
CAS# 141-43-5: Draize test, rabbit, eye: 250 ug Severe; Oral, mouse: LD50 = 700 mg/kg; Oral, rabbit: LD50 = 1 gm/kg; Oral, rat: LD50 = 1720 mg/kg; Skin, rabbit: LD50 = 1 mL/kg.
CAS# 7732-18-5.
CAS# 12069-69-1: Oral, rabbit: LD50 = 159 mg/kg; Oral, rat: LD50 = 1350 mg/kg; Oral, rat: LD50 = 159 mg/kg.
CAS# 31075-24-8.

Carcinogenicity:
Triethanolamine -
IARC: Group 3 carcinogen
Ethanolamine -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Water -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Copper(II) carbonate hydroxide -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
n-alkyl dimethyl benzyl ammonium chloride -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:
No data available.

Teratogenicity:
No data available.

Reproductive Effects:
No data available.

Neurotoxicity:
No data available.

Mutagenicity:
No data available.

Other Studies:
No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Cas# 102-71-6 LC50(Goldfish) = 5000mg/L, 24 Hr.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.
US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT

Shipping Name: ETHANOLAMINE
Hazard Class: 8
UN Number: UN2491
Packing Group: III

Canadian TDG

No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL

TSCA

CAS# 102-71-6 is listed on the TSCA inventory.
CAS# 141-43-5 is listed on the TSCA inventory.
CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 12069-69-1 is listed on the TSCA inventory.
CAS# 31075-24-8 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 102-71-6: Effective Date: 4/13/89; Sunset Date: 12/19/95

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 102-71-6: acute.
CAS # 141-43-5: acute, flammable.
CAS # 12069-69-1: acute, chronic.

Section 313

This material contains Copper(II) carbonate hydroxide (listed as ** undefined **), 3 07%, (CAS# 12069-69-1) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

Clean Air Act:

This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
CAS# 12069-69-1 is listed as a Priority Pollutant under the Clean Water Act.
CAS# 12069-69-1 is listed as a Toxic Pollutant under the Clean Water Act.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

Triethanolamine can be found on the following state right to know

lists: Florida, Pennsylvania, Minnesota, Massachusetts.
Ethanolamine can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.
Water is not present on state lists from CA, PA, MN, MA, FL, or NJ.
Copper(II) carbonate hydroxide can be found on the following state right to know lists: California, (listed as ** no name **), California, (listed as ** no name **), New Jersey, (listed as ** no name **), Florida, (listed as ** no name **), Pennsylvania, (listed as ** no name **), Minnesota, (listed as ** no name **), Massachusetts, (listed as ** no name **).
n-alkyl dimethyl benzyl ammonium chloride is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level:
None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN C

Risk Phrases:

R 21/22 Harmful in contact with skin and if swallowed.

R 34 Causes burns.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

S 28B After contact with skin, wash immediately with plenty of water and soap.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 102-71-6: 1
CAS# 141-43-5: 1
CAS# 7732-18-5: No information available.
CAS# 12069-69-1: No information available.
CAS# 31075-24-8: 2

United Kingdom Occupational Exposure Limits

CAS# 141-43-5: OES-United Kingdom, TWA 3 ppm TWA; 7.6 mg/m3 TWA
CAS# 141-43-5: OES-United Kingdom, STEL 6 ppm STEL; 15 mg/m3 STEL
CAS# 141-43-5: OES-United Kingdom, STEL 6 ppm STEL; 15 mg/m3 STEL
CAS# 12069-69-1: OES-United Kingdom, TWA (listed as ** undefined **): 0.2 ppm TWA (fume, as Cu); 1 mg/m3 TWA (dusts and mists, as Cu)
CAS# 12069-69-1: OES-United Kingdom, STEL (listed as ** undefined **): 2 mg/m3 STEL (dusts and mists)

United Kingdom Maximum Exposure Limits

Canada

CAS# 102-71-6 is listed on Canada's DSL List.
CAS# 141-43-5 is listed on Canada's DSL List.
CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 12069-69-1 is listed on Canada's DSL List.
CAS# 31075-24-8 is listed on Canada's DSL List.
WHMIS: Not available.
CAS# 102-71-6 is listed on Canada's Ingredient Disclosure List.
CAS# 141-43-5 is listed on Canada's Ingredient Disclosure List.
CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 12069-69-1 is listed on Canada's Ingredient Disclosure List.
CAS# 31075-24-8 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 102-71-6: OEL-SWEDEN:TWA 5 mg/m3;STEL 10 mg/m3

CAS# 141-43-5: OEL-ARAB Republic of Egypt:TWA 3 ppm (6 mg/m3)
OEL-AUSTRALIA:TWA 3 ppm (8 mg/m3);STEL 6 ppm (15 mg/m3)
OEL-BELGIUM:TWA 3 ppm (7.5 mg/m3);STEL 6 ppm (15 mg/m3)
OEL-DENMARK:TWA 6 ppm (6 mg/m3)
OEL-FINLAND:TWA 3 ppm (7.5 mg/m3);STEL 6 ppm (15 mg/m3)
OEL-FRANCE:TWA 3 ppm (8 mg/m3)
OEL-GERMANY:TWA 3 ppm (8 mg/m3)
OEL-JAPAN:TWA 3 ppm (7.5 mg/m3)
OEL-THE NETHERLANDS:TWA 3 ppm (8 mg/m3)
OEL-THE PHILIPPINES:TWA 3 ppm (6 mg/m3)
OEL-RUSSIA:TWA 3 ppm;STEL 0.5 mg/m3;Skin
OEL-SWITZERLAND:TWA 3 ppm (7.5 mg/m3);STEL 15 ppm (37.5 mg/m3)
OEL-UNITED KINGDOM:TWA 3 ppm (8 mg/m3);STEL 6 ppm (15 mg/m3)
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV
CAS# 12069-69-1: OEL-ARAB Republic of Egypt:TWA 0.1 mg(Cu)/m3 (fume)
OEL-AUSTRALIA:TWA 0.2 mg(Cu)/m3 (fume)
OEL-AUSTRALIA:TWA 1 mg(Cu)/m3 (dust)
OEL-BELGIUM:TWA 0.2 mg(Cu)/m3 (fume)
OEL-BELGIUM:TWA 1 mg(Cu)/m3 (dust)
OEL-DENMARK:TWA 0.1 mg(Cu)/m3 (fume)
OEL-DENMARK:TWA 1 mg(Cu)/m3 (dust)
OEL-FINLAND:TWA 0.2 mg(Cu)/m3 (fume)
OEL-FINLAND:TWA 1 mg(Cu)/m3
OEL-FINLAND:TWA 1 mg(Cu)/m3 (dust)
OEL-FRANCE:TWA 0.2 mg(Cu)/m3 (fume)
OEL-FRANCE:TWA 1 mg(Cu)/m3;STEL 2 mg(Cu)/m3 (dust
OEL-GERMANY:TWA 0.1 mg(Cu)/m3 (fume)
OEL-GERMANY:TWA 1 mg(Cu)/m3
OEL-GERMANY:TWA 1 mg(Cu)/m3 (dust)
OEL-HUNGARY:TWA 0.2 mg(Cu)/m3;STEL 0.4 mg(Cu)/m3 (dust)
OEL-INDIA:TWA 0.2 mg(Cu)/m3 (fume)
OEL-THE NETHERLANDS:TWA 02 mg(Cu)/m3 (fume)
OEL-THE NETHERLANDS:TWA 1 mg(Cu)/m3 (dust)
OEL-THE PHILIPPINES:TWA 1.0 mg(Cu)/m3 (fume) JAN9
OEL-POLAND:TWA 0.1 mg(Cu)/m3 (fume)
OEL-RUSSIA:STEL 0.5 ppm (1 mg(Cu)/m3) (dust) JAN9
OEL-SWEDEN:TWA 0.2 mg(Cu)/m3 (resp. dust)
OEL-SWEDEN:TWA 0.2 mg(Cu)/m3 (fume)
OEL-SWEDEN:TWA 1 mg(Cu)/m3 (total dust)
OEL-SWITZERLAND:TWA 0.1 mg(Cu)/m3;STEL 0.2 mg(Cu)/m3 (fume)
OEL-SWITZERLAND:TWA 1 mg(Cu)/m3;STEL 1 mg(Cu)/m3
OEL-THAILAND:TWA 0.1 mg(Cu)/m3 (fume)
OEL-THAILAND:TWA 1 mg(Cu)/m3
OEL-U

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 5/04/1999 Revision #2 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary

damages, howsoever arising, even if the company has been advised of the possibility of such damages.

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name Ethanol Standard, 0.5 mg/ml

Product Code 68988

Manufacturer EMD Chemicals Inc.
P.O. Box 70
480 Democrat Road
Gibbstown, NJ 08027
Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.

Effective Date 1/7/2003

For More Information Call
856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call
800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym Alcohol standard solution
Material Uses Laboratory Reagent
Chemical Family Aqueous Alcohol Solution

+ Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Ethanol	64-17-5	<1
Water	7732-18-5	>99

Section 3. Hazards Identification

Physical State and Appearance Liquid.

Emergency Overview CAUTION !
Handle in accordance with good laboratory, industrial hygiene and safety practices

Routes of Entry Inhalation. Ingestion.

Potential Acute Health Effects
Eyes No known effect on eye contact, rinse with water for a few minutes.
Skin No known effect on skin contact; rinse with water for a few minutes.
Inhalation No known acute effects of this product resulting from inhalation.
Ingestion No known acute effects of this product resulting from ingestion.

Potential Chronic Health Effects
Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure: Repeated or prolonged exposure is not known to aggravate medical condition.

Section 4. First Aid Measures

Eye Contact Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention if irritation occurs.

Skin Contact Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire Fighting Measures

Flammability of the Product Non-flammable.
Auto-Ignition Temperature Not applicable.
Flash Points Not applicable.
Flammable Limits Not applicable.
Products of Combustion Not applicable.
Fire Hazards in Presence of Various Substances Not applicable.
Explosion Hazards in **Risks of explosion of the product in presence of static discharge:** No.

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Presence of Various Substances	**Risks of explosion of the product in presence of mechanical impact:** No.
Fire Fighting Media and Instructions	Not applicable.
Protective Clothing (Fire)	Wear suitable protective clothing.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill and Leak	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.
Large Spill and Leak	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Spill Kit Information	No specific spill kit required for this product.

Section 7. Handling and Storage

Handling	Avoid prolonged contact with eyes, skin, and clothing. Do not ingest. Avoid breathing vapors or spray mists. Use only with adequate ventilation. Wash thoroughly after handling.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Store between 15 to 30°C (59 to 86°F).

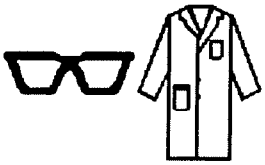
Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits.

Personal Protection

Eyes Safety glasses.
Body Lab coat.
Respiratory Not applicable.
Hands Not applicable.
Feet Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name	Exposure Limits
Ethanol	**AUVA (Austria, 1995).** Spitzenbegrenzung: 3800 mg/m3 3 times per shift, 60 minute(s). Spitzenbegrenzung: 2000 ML/M3 3 times per shift, 60 minute(s). TWA: 1900 mg/m3 8 hour(s). TWA: 1000 ML/M3 8 hour(s). **NOHSC (Australia, 1995).** TWA: 1880 mg/m3 8 hour(s). TWA: 1000 ppm 8 hour(s). **Lijst Grenswaarden (Belgium, 1998).** VL: 1907 mg/m3 8 hour(s). VL: 1000 ppm 8 hour(s). **SUVA (Switzerland, 1997).** MAK: 1900 mg/m3 8 hour(s). MAK: 1000 ML/M3 8 hour(s). **Ministry of Health (CL, 1992).** TWA: 1500 mg/m3 8 hour(s). TWA: 800 ppm 8 hour(s). **MAK-Werte Liste (Germany, 1998).** Spitzenbegrenzung: 1920 mg/m3 4 times per shift, 30 minute(s). Spitzenbegrenzung: 1000 ML/M3 4 times per shift, 30 minute(s). TWA: 960 mg/m3 8 hour(s). TWA: 500 ML/M3 8 hour(s). **TRGS900 (Germany, 1999).** Spitzenbegrenzung: 7600 mg/m3 Spitzenbegrenzung: 4000 ML/M3 TWA: 1900 mg/m3 8 hour(s).

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	TWA: 1000 ML/M3 8 hour(s).
	Arbejdstilsynet (Denmark, 1996).
	GV: 1900 mg/m3 8 hour(s).
	GV: 1000 ppm 8 hour(s).
	Tyterveyslaitos (Finland, 1998).
	STEL: 2500 mg/m3 15 minute(s).
	STEL: 1300 ppm 15 minute(s).
	TWA: 1900 mg/m3 8 hour(s).
	TWA: 1000 ppm 8 hour(s).
	INRS (France, 1999).
	VLE: 9500 mg/m3 15 minute(s).
	VLE: 5000 ppm 15 minute(s).
	VME: 1900 mg/m3 8 hour(s).
	VME: 1000 ppm 8 hour(s).
	EH40-OES (United Kingdom (UK), 2000).
	TWA: 1920 mg/m3 8 hour(s).
	TWA: 1000 ppm 8 hour(s).
	NAOSH (Ireland, 1999).
	OEL: 1900 mg/m3 8 hour(s).
	OEL: 1000 ppm 8 hour(s).
	Ministry of Labour (KR, 1997).
	TWA: 1900 mg/m3 8 hour(s).
	TWA: 1000 ppm 8 hour(s).
	Secretary of Work and Social security (MX, 1994).
	CPT: 1900 mg/m3 8 hour(s).
	CPT: 1000 ppm 8 hour(s).
	Nationale MAC-lijst (Netherlands, 2000).
	TGG 8 uur: 1000 mg/m3 8 hour(s).
	TGG 8 uur: 500 ppm 8 hour(s).
	NZ OSH (NZ, 1994).
	TWA: 1880 mg/m3 8 hour(s).
	TWA: 1000 ppm 8 hour(s).
	AFS (Sweden, 1996).
	TGV: 1900 mg/m3
	TGV: 1000 ppm
	NGV: 1000 mg/m3 8 hour(s).
	NGV: 500 ppm 8 hour(s).
	ACGIH TLV (United States, 2000).
	TWA: 1880 mg/m3 8 hour(s).
	TWA: 1000 ppm 8 hour(s).
	NIOSH REL (United States, 2000).
	TWA: 1900 mg/m3 10 hour(s).
	TWA: 1000 ppm 10 hour(s).
	OSHA Final Rule (United States, 1989).
	TWA: 1900 mg/m3 8 hour(s).
	TWA: 1000 ppm 8 hour(s).
Water	Not available.

Section 9. Physical and Chemical Properties

Odor	Odorless.
Color	Clear. Colorless.
Physical State and Appearance	Liquid.
Molecular Weight	Not applicable.
Molecular Formula	Not applicable.
pH	Not available.
Boiling/Condensation Point	100°C (212°F)
Melting/Freezing Point	May start to solidify at -0.1°C (31.8°F) based on data for: Water.
Specific Gravity	Not available.
Vapor Pressure	Not available.
Vapor Density	Not available.
Odor Threshold	Not available.
Evaporation Rate	The highest known value is 1.7 (Ethanol) Weighted average: 1.02compared to(n-Butyl Acetate =1)
LogKow	Not available.
Solubility	Soluble in water.

+ Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Conditions of Instability	Not available.
Incompatibility with Various Substances	Not available.
Rem/Incompatibility	Not available.

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Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Will not occur.

+ Section 11. Toxicological Information

RTECS Number:

	Ethanol	KQ6300000
	Water	ZC0110000

Toxicity	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Not available.
Acute Effects on Humans	Not available.
Special Remarks on Other Toxic Effects on Humans	No information on harmful effects of ethyl alcohol in these diluted concentrations was found. Harmful effects of overexposure can not be ruled out.
Synergetic Products (Toxicologically)	Not available.
Irritancy	Draize Test: Not available.
Sensitization	Not available.
Carcinogenic Effects	This material is not known to cause cancer in animals or humans.
Toxicity to Reproductive System	Not available.
Teratogenic Effects	Not available.
Mutagenic Effects	Not available.

Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.

Section 13. Disposal Considerations

EPA Waste Number	Not available.
Treatment	Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

Section 14. Transport Information

DOT Classification	Not available.
TDG Classification	Not available.
IMO/IMDG Classification	Not available.
ICAO/IATA Classification	Not available.

Section 15. Regulatory Information

U.S. Federal Regulations	TSCA 8(b) inventory: Ethanol; Water SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: ETHANOL SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ETHANOL: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard SARA 313 toxic chemical notification and release reporting: No products were found. Clean Water Act (CWA) 307: No products were found. Clean Water Act (CWA) 311: No products were found. Clean air act (CAA) 112 accidental release prevention: No products were found. Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: No products were found.
WHMIS (Canada)	Not controlled under WHMIS (Canada). CEPA DSL: Ethanol; Water This product has been classiifed in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.
International Regulations	
EINECS	Ethanol 200-578-6

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	Water 231-791-2
DSCL (EEC)	This product is not classified according to the EU regulations.
International Lists	Australia (NICNAS): Ethanol; Water
	Germany water class: Ethanol
	Japan (MITI): Ethanol; Water
	Korea (TCCL): Ethanol; Water
	Philippines (RA6969): Ethanol; Water
	China: No products were found.
State Regulations	Pennsylvania RTK: Ethanol: (generic environmental hazard)
	Massachusetts RTK: Ethanol
	New Jersey: Ethanol Standard, 0.5 mg/ 1ml
	California prop. 65: No products were found.

Section 16. Other Information

National Fire Protection Association (U.S.A.)

	0	Fire Hazard
Health 0	0	Reactivity
		Specific Hazard

Other Special Considerations	Ampule : 0.5 mg Ethyl Alcohol in 1 ml
Changed Since Last Revision	+

Notice to Reader

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.

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EMD CHEMICALS INC.
480 South Democrat Road
Gibbstown NJ, 08027-1297

Recipient Co. Name :

Addresseel : Lanni

Recipient FaxNo : 18185036504

Recipient Phone No.:

Sender's Name : Pat Ott

Sender's Phone No.: 1-800-222-0342

Sender's Fax No.: 1-800-336-4422

Time Sent : Thursday, May 29, 2003 04:40PM

Totl. Pages : 6

Description : **MSDS**

EMD chemicals product information, Certificates of Analysis, MSDS, available on our website: www.emdchemicals.com

MATERIAL SAFETY DATA SHEET

EM SCIENCE

|1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Manufacturer.....:
EM SCIENCE
A Division of EM Industries
P.O. Box 70
480 Democrat Road
Gibbstown, N.J. 08027

Preparation Date.: 10/27/97

Information Phone Number.: 856-423-6300
Hours: Mon. to Fri. 8:30-5
Chemtrec Emergency Number: 800-424-9300
Hours: 24 hrs a day

Catalog Number(s):

68988 68991 69003 69008 69009 68996

Product Name:
Alcohol-Standard Solution
Synonyms:
N/A
Chemical Family:
Aqueous Alcohol Solution
Formula:
Aqueous Alcohol Solution
Molecular Weight.:
Solution

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	Appr %
Ethyl Alcohol	64-17-5	Varies
Water	7732-18-5	Varies

68988 contains 0.5 mg ethyl alcohol in 1 ml water
68991 contains 1.0 mg ethyl alcohol in 1 ml water
68996 contains 1.5 mg ethyl alcohol in 1 ml water
69003 contains 2.0 mg ethyl alcohol in 1 ml water
69008 contains 3.0 mg ethyl alcohol in 1 ml water
69009 contains 4.0 mg ethyl alcohol in 1 ml water

|3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Handling care generally in keeping with safe laboratory practices is recommended.

Appearance:
Colorless, odorless liquid

POTENTIAL HEALTH EFFECTS (ACUTE AND CHRONIC)

Symptoms of Exposure:
No information on harmful effects of ethyl alcohol in these dilute concentrations was found. Harmful effects of overexposure can not be ruled out. Handling care generally in keeping with safe laboratory practices is recommended.

Medical Cond. Aggravated by Exposure:
Data not available.

Routes of Entry:
Inhalation, ingestion or skin contact.

Carcinogenicity:
The material is not listed (IARC, NTP, OSHA) as cancer causing agent.

4. FIRST AID MEASURES

Emergency First Aid:
GET MEDICAL ASSISTANCE FOR ALL CASES OF OVEREXPOSURE.
Skin: Immediately flush thoroughly with large amounts of water.
Eyes: Immediately flush thoroughly with water for at least 15 minutes.
Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped.
Ingestion: Get immediate medical attention; if conscious, give water freely.

5. FIRE FIGHTING MEASURES

Flash Point (F): Noncombustible
Flammable Limits LEL (%): N/A
Flammable Limits UEL (%): N/A
Extinguishing Media:
Use any suitable for adjacent material.

Fire Fighting Procedures:
Wear self-contained breathing apparatus.

Fire & Explosion Hazards:
None

6. ACCIDENTAL RELEASE MEASURES

Spill Response:
Evacuate the area of all unnecessary personnel. Wear suitable protective equipment listed under Exposure / Personal Protection. Eliminate any ignition sources until the area is determined to be free from explosion or fire hazards. Contain the release and eliminate its source, if this can be done without risk. Take up and containerize for proper disposal as described under Disposal. Comply with Federal, State, and local regulations on reporting releases. Refer to Regulatory Information for reportable quantity and other regulatory data.

7. HANDLING AND STORAGE

Handling & Storage:
Keep container closed. Store at controlled room temperature. Do not get in eyes. Avoid prolonged, or repeated, skin contact.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS AND PERSONAL PROTECTIVE EQUIPMENT:
Ventilation, Respiratory Protection, Protective Clothing, Eye Protection:
Material should be handled or transferred in an approved fume hood or with adequate ventilation. Protective gloves should be worn to prevent skin contact (Neoprene or equivalent) Safety glasses with side shields should be worn at all times.

Work/Hygenic Practices:
Wash thoroughly after handling. Do not take internally. Eye wash and safety equipment should be readily available.

EXPOSURE GUIDELINES

OSHA - PEL:

	TWA		STEL		CL		
Component	PPM	MG/M3	PPM	MG/M3	PPM	MG/M3	Skin
Ethyl Alcohol	1000	1900					
Water							

ACGIH - TLV:

	TWA		STEL		CL		
Component	PPM	MG/M3	PPM	MG/M3	PPM	MG/M3	Skin
Ethyl Alcohol	1000	1880					
Water							

If there are no exposure limit numbers listed in the Exposure Guidelines chart, this indicates that no OSHA or ACGIH exposure limts have been established.

9. PHYSICAL AND CHEMCIAL PROPERTIES

Boiling Point (C 760 mmHg) : 100C
Melting Point (C) : N/A
Specific Gravity (H_2O = 1) : N/A
Vapor Pressure (mm Hg) : N/A
Percent Volatile by vol (%): N/A
Vapor Density (Air = 1) : N/A
Evaporation Rate (BuAc = 1): N/A
Solubility in Water (%) : Soluble
Appearance :
Colorless, odorless liquid

10. STABILITY AND REACTIVITY

Stability: Yes

Hazardous Polymerization:
Does not occur

Hazardous Decomposition:
None indicated

Conditions to Avoid:
None indicated

Materials To Avoid:

```
( ) Water
( ) Acids
( ) Bases
( ) Corrosives
( ) Oxidizers
(X) Other: none indicated
```

11. TOXICOLOGICAL INFORMATION

Toxicity Data

None established.

Toxicological Findings:
None
Cited in Registry of Toxic Effects of Chemical Substances (RTECS)

12. DISPOSAL CONSIDERATIONS

EPA Waste Numbers:

Treatment:
Material does not have an EPA Waste number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished.
ALWAYS CONTACT A PERMITTED WASTE DISPOSER (TSD) TO ASSURE COMPLIANCE WITH ALL CURRENT LOCAL, STATE AND FEDERAL REGULATIONS.

13. TRANSPORT INFORMATION

DOT Proper Shipping Name:
non-regulated

DOT ID Number :
none

14. REGULATORY INFORMATION

TSCA Statement:
This product is a "Mixture". The CAS numbers of all components are listed on the TSCA Inventory.

Component	SARA EHS (302)	SARA EHS TPQ (lbs)	CERCLA RQ (lbs)
Ethyl Alcohol			
Water			

Component	OSHA Floor List	SARA 313	DeMinimis for SARA 313 (%)
Ethyl Alcohol	Y		
Water			

If there is no information listed on the regulatory information chart, this indicates that the chemical is not covered by the specific regulation listed.

15. OTHER INFORMATION

Comments:
None

NFPA Hazard Ratings:

Health : 0
Flammability : 0
Reactivity : 0
Special Hazards :

Revision History: 9/3/96

| = Revised Section

N/A = Not Available

N/E = None Established

The statements contained herein are offered for informational purposes only and are based upon technical data that EM Science believes to be accurate. It is intended for use only by persons having the necessary technical skill and at their own discretion and risk. Since conditions and manner of use are outside our control, we make NO WARRANTY, EXPRESS OR IMPLIED, OR MERCHANTABILITY, FITNESS OR OTHERWISE.

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Sparkleen I
Catalog Numbers:
043204, 043205, S701101
Synonyms:
FisherBrand Sparkleen I; 04-320-4; 04-320-5
Company Identification: Fisher Scientific
1 Reagent Lane
Fairlawn, NJ 07410
For information, call: 201-796-7100
Emergency Number: 201-796-7100
For CHEMTREC assistance, call: 800-424-9300
For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
497-19-8	Sodium carbonate	< 30	207-838-8
9016-45-9	Ethylene oxide-nonylphenol polymer	< 10	unlisted
25155-30-0	Sodium dodecylbenzenesulfonate	< 10	246-680-4

Hazard Symbols: None Listed.
Risk Phrases: None Listed.

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: white solid.
Warning! May be harmful if swallowed. Eye contact may result in permanent eye damage. May cause severe eye and skin irritation with possible burns. May cause respiratory and digestive tract irritation.
Target Organs: None.

Potential Health Effects

Eye:
Contact with eyes may cause severe irritation, and possible eye burns.

Skin:
Contact with skin causes irritation and possible burns, especially if the skin is wet or moist.

Ingestion:
May cause severe digestive tract irritation with abdominal pain, nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation:
May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. If heated, dust or fume may cause respiratory tract irritation.

Chronic:
Repeated or prolonged exposure contact with concentrated solutions causes tissue damage and ulceration.

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**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Get medical aid immediately. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material will not burn.

Extinguishing Media:

Use extinguishing media most appropriate for the surrounding fire.

Autoignition Temperature:Not available.

Flash Point: Not available.

Explosion Limits, lower:Not available.

Explosion Limits, upper:Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Discard contaminated shoes.

Storage:

Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium carbonate	none listed	none listed	none listed
Ethylene oxide-nonylphenol polymer	none listed	none listed	none listed
Sodium dodecylbenzenesulfonate	none listed	none listed	none listed

OSHA Vacated PELs:
Sodium carbonate:
No OSHA Vacated PELs are listed for this chemical.
Ethylene oxide-nonylphenol polymer:
No OSHA Vacated PELs are listed for this chemical.
Sodium dodecylbenzenesulfonate:
No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State:	Solid
Color:	white
Odor:	odorless
pH:	9.5-10 in solution.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Evaporation Rate:	Not available.
Viscosity:	Not available.
Boiling Point:	Not available.

Freezing/Melting Point:	Not available.
Decomposition Temperature:	Not available.
Solubility in water:	Moderately soluble in water.
Specific Gravity/Density:	Not available.
Molecular Formula:	Mixture
Molecular Weight:	0

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable.
Conditions to Avoid:
Incompatible materials.
Incompatibilities with Other Materials:
Ammonia and silver nitrate, dinitrotoluene, trinitrotoluene, sulfuric acid, phosphorous pentoxide, sodium sulfide and water, hydrogen peroxide.
Hazardous Decomposition Products:
Sulfur dioxide, carbon monoxide, carbon dioxide, sulfur oxides (SOx), including sulfur oxide and sulfur dioxide.
Hazardous Polymerization: Will not occur.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 497-19-8: VZ4050000
CAS# 9016-45-9: AX0247000 MD0900000 MD0905000 OQ0248333 WZ4200000 WZ4375000 WZ4550000 WZ4725000 WZ4750000
CAS# 25155-30-0: DB6825000
LD50/LC50:
Not available.
CAS# 9016-45-9: Draize test, rabbit, eye: 5 mg Severe; Draize test, rabbit, eye: 5 mg Severe; Draize test, rabbit, eye: 20 mg Severe.
CAS# 25155-30-0: Draize test, rabbit, eye: 250 ug/24H Severe; Draize test, rabbit, eye: 1% Severe; Draize test, rabbit, skin: 20 mg/24H Moderate; Oral, mouse: LD50 = 1330 mg/kg; Oral, rat: LD50 = 438 mg/kg.
Carcinogenicity:
Sodium carbonate -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Ethylene oxide-nonylphenol polymer -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Sodium dodecylbenzenesulfonate -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:
No information available.
Teratogenicity:
No information available.
Reproductive Effects:
No information available.
Neurotoxicity:
No information available.
Mutagenicity:
No information available.
Other Studies:
No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Cas# 497-19-8: LC50(96Hr.) = 320 mg/L; Static Conditions

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.
US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
No information available
Canadian TDG
No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 497-19-8 is listed on the TSCA inventory.
CAS# 9016-45-9 is listed on the TSCA inventory.
CAS# 25155-30-0 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
SARA
CERCLA Hazardous Substances and corresponding RQs
CAS# 25155-30-0: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 497-19-8: acute.
CAS # 9016-45-9: acute, chronic, flammable.
CAS # 25155-30-0: acute.
Section 313
No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
CAS# 25155-30-0 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants

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under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

Sodium carbonate is not present on state lists from CA, PA, MN, MA, FL, or NJ.

Ethylene oxide-nonylphenol polymer is not present on state lists from CA, PA, MN, MA, FL, or NJ.

Sodium dodecylbenzenesulfonate can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.

California No Significant Risk Level:

None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 497-19-8: 1

CAS# 9016-45-9: 2

CAS# 25155-30-0: 2

United Kingdom Occupational Exposure Limits

United Kingdom Maximum Exposure Limits

Canada

CAS# 497-19-8 is listed on Canada's DSL List.

CAS# 9016-45-9 is listed on Canada's DSL List.

CAS# 25155-30-0 is listed on Canada's DSL List.

This product has a WHMIS classification of D2B.

CAS# 497-19-8 is listed on Canada's Ingredient Disclosure List.

CAS# 9016-45-9 is not listed on Canada's Ingredient Disclosure List.

CAS# 25155-30-0 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 7/12/1999 Revision #1 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

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Helena Laboratories Working for you

1530 Lindbergh Dr
PO Box 752
Beaumont, TX 77704-0752
Toll Free 800-231-5663
Local 409-842-3714
FAX (Orders) 409-842-9561
FAX (General) 409-842-6241

PRODUCT NAME: AA2 Hemo Control (1 x 1 mL)

PRODUCT CATALOG NUMBER: 5328

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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FAX (General) 409-842-6241

PRODUCT NAME: AFSC Hemo Control (1 x 1 mL)

PRODUCT CATALOG NUMBER: 5331

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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FAX (General) 409-842-6241

PRODUCT NAME: Citrate Buffer (10/pkg)

PRODUCT CATALOG NUMBER: 5121

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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FAX (Orders) 409-842-9561
FAX (General) 409-842-6241

PRODUCT NAME: Clear Aid (1 x 250 mL)

PRODUCT CATALOG NUMBER: 5005

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 1/9/1992
REVISION: 2

****

1. IDENTIFICATION:

PRODUCT NAME: **ELECTRA HR BUFFER**

PRODUCT NO.: **5805**

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME	CAS #	%
BARBITAL	**57-44-3**	**62.0**

ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 1/7/1992
REVISION: 2

****

1. IDENTIFICATION:

NAME: **BARBITAL**

CAS #: **57-44-3**

MOLECULAR WEIGHT: **184.22**
MOLECULAR FORMULA: **C8H12N2O3**

CHEMICAL NAMES: **2,4,6(1H,3H,5H)-PYRIMIDENETRIONE, 5,5-DIETHYL- * 5,5-DIETHYLBARBITURIC ACID**

SYNONYMS: **DIETHYLBARBITONE * DIETHYLMALONYLUREA * BARBITONE * VERONAL * SEDEVAL**

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
BARBITAL 57-44-3	100.0	**NA**	

3. PHYSICAL DATA:

BOILING POINT: **NA** SPECIFIC GRAVITY (H_2O = 1): **NIF**

VAPOR PRESSURE (MM HG.): **NA** MELTING POINT: **188-192°C**

VAPOR DENSITY (AIR = 1): **NA** SOLUBILITY IN WATER: **SLIGHTLY SOLUBLE**

APPEARANCE AND ODOR: **WHITE CRYSTALLINE POWDER OR COLORLESS CRYSTALS**

NA = Not Applicable **NE = Not Established**
NL = Not Listed **NIF = No Information Found**

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? **YES** SKIN? **YES** INGESTION? **YES**

OSHA REGULATED: **NA**

CARCINOGENICITY: NTP? **NA** IARC? **NA**

ACUTE EFFECT OF OVEREXPOSURE: **EXPOSURE TO THE EYES, SKIN, INHALATION AND INGESTION MAY CAUSE DROWSINESS, LETHARGY, SKIN ERUPTIONS, NAUSEA AND VOMITING. LARGE DOSES CAUSE MARKED DEPRESSION (SOMETIMES PRECEDED BY EXCITATION), COMA AND DEATH.**

CHRONIC EFFECTS OF EXPOSURE: **NIF**

TOXICITY DATA: **ORAL HUMAN TDLO 4 MG/KG-PSYCHOTROPIC EFFECTS; ORAL CAT LDLO 280 MG/KG; ORAL RABBIT LDLO 275 MG/KG; SUBCUTANEOUS RAT LD50 450 MG/KG; SUBCUTANEOUS MOUSE LD50 630 MG/KG; SUBCUTANEOUS RABBIT LDLO 250 MG/KG; INTRAPERITONEAL RAT LDLO 300 MG/KG; INTRAPERITONEAL MOUSE LD50 500 MG/KG; INTRAPERITONEAL RABBIT LDLO 225 MG/KG; INTRAVENOUS RABBIT LDLO 350 MG/KG; INTRAVENOUS CHICKEN LDLO 225 MG/KG; CYTOGENETIC ANALYSIS MOUSE ORAL 33 G/KG; CYTOGENETIC ANALYSIS HAMSTER FIBROBLAST 2 G/L/48H**

MODERATELY TOXIC BY INTRAPERITONEAL AND SUBCUTANEOUS ADMINISTRATION. CAN CAUSE PSYCHOTROPIC EFFECTS IN HUMANS VIA ORAL ADMINISTRATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: **BARBITAL EFFECTS MAY BE INTENSIFIED BY PRESENCE OF OTHER DRUGS.**

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: **IN CASE OF CONTACT, FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.**

SKIN CONTACT: **IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER FOR 15 MINUTES. CALL A PHYSICIAN.**

INHALATION: **KEEP AIR PASSAGES OPEN; PREVENT ASPIRATION. GIVE ARTIFICIAL RESPIRATION OR OXYGEN. CALL A PHYSICIAN.**

INGESTION: **IF CONSCIOUS, INDUCE VOMITING BY IPECAC SYRUP OR TWO GLASSES OF WARM WATER OR DILUTE MILK FOLLOWED BY TICKLING THE BACK OF THE THROAT WITH A TONGUE DEPRESSOR. AFTER VOMITING STOPS, GIVE PATIENT ONE OR TWO TABLESPOONFULS OF ACTIVATED CHARCOAL IN A GLASS OF WATER. CALL A PHYSICIAN.**

****

5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): **NA**

FLAMMABLE LIMITS: LEL **NE** UEL **NE**

EXTINGUISHING MEDIA: **FOAM, FOG, WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL**

SPECIAL FIRE FIGHTING PROCEDURES: **ISOLATE HAZARD AND EVACUATE CONFINE AREAS. STAY UPWIND; AVOID SMOKE AND FUMES. USE WATER SPRAY TO WET CONTAINERS. IF SMOKE AND FUMES CANNOT BE AVOIDED, WEAR A CHEMICAL-PROOF SUIT WITH HOOD AND BREATHING AIR SUPPLY. FIGHT FIRE FROM MAXIMUM DISTANCE.**

UNUSUAL FIRE AND EXPLOSION HAZARDS: **NA**

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: **X**

INCOMPATIBILITY (MATERIALS TO AVOID): **NA**

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: **WHEN HEATED TO DECOMPOSITION, TOXIC FUMES SUCH AS NITROGEN OXIDES ARE EMITTED.**

HAZARDOUS POLYMERIZATION:
MAY OCCUR: WILL NOT OCCUR: **X**

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: **SHOVEL LARGE QUANTITIES OF SPILLED MATERIAL INTO DRUMS. SWEEP UP THE SPILL AREA AND SAVE THE MATERIAL FOR RECOVERY. FLUSH THE SPILL AREA WITH DETERGENT AND WATER.**

WASTE DISPOSAL METHODS: **OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.**

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): **DUST RESPIRATOR**

VENTILATION: LOCAL EXHAUST: **X** MECHANICAL:
OTHER:

PROTECTIVE GLOVES: **YES**

EYE PROTECTION: **YES**

OTHER PROTECTIVE EQUIPMENT: **NA**

****

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: **AVOID BREATHING DUST. AVOID CONTACT WITH EYE AND SKIN. WASH THOROUGHLY AFTER HANDLING.**

OTHER PRECAUTIONS: **NA**

10. OTHER INFORMATION: **NA**

****

The information herein is given in good faith but no warranty, expressed or implied, is made.

****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 6/12/2001
REVISION: 2

****

1. IDENTIFICATION:

PRODUCT NAME: IMMUNOFIX ANTISERA KIT II

PRODUCT NO.: 3151

==========

2. INGREDIENTS (THE ABOVE KIT CONTAINS THE FOLLOWING ITEMS):

PRODUCT NUMBER	PRODUCT IDENTIFICATION (LABEL NAME)	COMMENTS
551197	TITAN GEL IFE IgG	NON-HAZARDOUS
551198	TITAN GEL IFE IgA	NON-HAZARDOUS
551199	TITAN GEL IFE IgM	NON-HAZARDOUS
551200	TITAN GEL IFE KAPPA CHAIN	NON-HAZARDOUS
551201	TITAN GEL IFE LAMBDA CHAIN	NON-HAZARDOUS
551202	TITAN GEL IFE PROTEIN FIXATIVE	

HAZARDOUS INGREDIENT	CAS #	%	
ACETIC ACID, GLACIAL	64-19-7	9.0	MSDS ATTACHED
5-SULFOSALICYLIC ACID	97-05-02	9.0	MSDS ATTACHED

==========

ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

****

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 3/2/1992
REVISION: 2

****

1. IDENTIFICATION:

NAME: ACETIC ACID, GLACIAL

CAS #: 64-19-7

==========

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
ACETIC ACID, GLACIAL 64-19-7	100	**10 ppm 25 mg/m³**	**10 ppm 25 mg/m³**

==========

3. PHYSICAL DATA:

BOILING POINT: **117°C TO 118°C** SPECIFIC GRAVITY (H2O = 1): **1.049**

VAPOR PRESSURE (MM HG.): **NIF** MELTING POINT: **16°C TO 16.5°C**

VAPOR DENSITY (AIR = 1): **2.07**

SOLUBILITY IN WATER: **SOLUBLE** APPEARANCE AND ODOR: **LIQUID WITH STRONG PUNGENT ODOR**

==========

NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? X SKIN? X INGESTION? X

CARCINOGENICITY: NTP? NO IARC? NO

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: MATERIAL IS EXTREMELY DESTRUCTIVE TO EYES.

SKIN: MATERIAL IS EXTREMELY DESTRUCTIVE TO SKIN.

INHALATION: MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT INHALATION MAY BE FATAL AS A RESULT OF SPASM, INFLAMMATION AND EDEMA OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA. SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND VOMITING.

INGESTION: MATERIAL IS EXTREMELY DESTRUCTIVE TO SKIN.

TOXICITY DATA:
RTECS NO: AF1225000
ACETIC ACID

IRRITATION DATA	TXAPA9 31,481,75
SKN-HMN 50 MG/24H MLD	UCDS** 8/7/63
SKN-RBT 525 MG OPEN SEV	TXAPA9 31,481,75
SKN-RBT 50 MG/24H MLD	AMIHBC 4,119,51
EYE-RBT 50 UG OPEN SEV	TXCYAC 23,281,82
EYE RBT 100 MG RINSE MLD	

TOXICITY DATA:

UNR-MAN LDLO:308 MG/KG	85DCAI 2,73,70
ORL-RAT LD50:3530 MG/KG	AMIHBC 4,119,51
IVN-MUS LD50:525 MG/KG	MELAAD 48,559,57
SKN-RBT LD50:1060 MG/KG	APTOA6 18,141,61
	UCDS** 8/7/63

REVIEWS, STANDARDS, AND REGULATIONS:
ACGIH TLV-TWO 10 PPM; STEL 15 PPM 85INA8 5,4,86
MSHA STANDARD - AIR:TWA 10 PPM (25 MG/M3) DTLVS* 3,2,71
OSHA STANDARD - AIR:TWA 10 PPM FEREAC 39,23540,74
EPA GENETOX PROGRAM 1986, NEGATIVE: HISTIDINE REVERSION-AMES TEST
EPA TSCA CHEMICAL INVENTORY, 1986
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, DECEMBER 1986
NIOSH ANALYTICAL METHODS: SEE ACETIC ACID, 1603
MEETS CRITERIA FOR PROPOSED OSHA MEDICAL RECORDS RULE FEREAC 47,30420,82,
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY OF RTECS FOR COMPLETE INFORMATION.

****

4. HEALTH HAZARD DATA (CONT):

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

INGESTION: BURNS SKIN AND THROAT. GIVE LARGE QUANTITIES OF WATER AND GET MEDICAL ATTENTION.

==========

5. FIRE AND EXPLOSION HAZARD:

FLASH POINT (METHOD USED):

FLAMMABLE LIMITS: LEL N/A UEL N/A

EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL POWDER, ALCOHOL OR POLYMER FOAM.

SPECIAL FIRE FIGHTING PROCEDURES: COMBUSTIBLE. WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

==========

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): BASES. PROTECT FROM MOISTURE.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: TOXIC FUMES OF: CARBON MONOXIDE AND CARBON DIOXIDE.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

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****

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR SELF-

CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHODS: OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS

==========

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): NIOSH-MSHA-APPROVED RESPIRATOR

VENTILATION: LOCAL EXHAUST: MECHANICAL: X
OTHER:

PROTECTIVE GLOVES: HEAVY RUBBER GLOVES

EYE PROTECTION: SAFETY GOGGLES, FACESHIELD (8-INCH MINIMUM)

OTHER PROTECTIVE EQUIPMENT: RUBBER BOOTS, HEAVY RUBBER GLOVES, SELF-CONTAINED BREATHING APPARATUS.

==========

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: WEAR APPROPRIATE NIOSH-MSHA-APPROVED RESPIRATOR, CHEMICAL RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING. SAFETY SHOWER AND EYE BATH. FACESHIELD (8-INCH MINIMUM). DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE VAPOR. READILY ABSORBED THROUGH SKIN. WASH THOROUGHLY AFTER HANDLING. CORROSIVE. KEEP AWAY FROM HEAT AND OPEN FLAME. STORE IN A COOL DRY PLACE.

OTHER PRECAUTIONS:

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10. OTHER INFORMATION:

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The information herein is given in good faith but no warranty, expressed or implied, is made.

****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 3/24/2000
REVISION: 1

****

1. IDENTIFICATION:

NAME: 5-SULFOSALICYLIC ACID

CAS #: 97-05-02

==========

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
SULFOSALICYLIC ACID 97-05-02	100	NA	NA

==========

3. PHYSICAL DATA:

BOILING POINT: N/A

SPECIFIC GRAVITY (H2O = 1): N/A

VAPOR PRESSURE (MM HG.): 0

MELTING POINT: 180°C

VAPOR DENSITY (AIR = 1): N/A

SOLUBILITY IN WATER: 180 g/100 g

APPEARANCE AND ODOR: WHITE CRYSTALLINE SOLID NO ODOR

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NA = Not Applicable
NL = Not Listed

NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

CARCINOGENICITY: NTP? NA IARC? NA

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: SEVERELY IRRITATING TO EYES.

SKIN: HARMFUL IF ABSORBED THROUGH THE SKIN. SEVERELY IRRITATING TO SKIN.

INHALATION: MAY BE FATAL DUE TO SPASM. INFLAMMATION AND EDEMA OF THE LARNYX AND BRONCHI EDEMA.

INGESTION: MAY BE HARMFUL IF SWALLOWED.

CHRONIC EFFECTS OF EXPOSURE: MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

TOXICITY DATA: NA

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NIF

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: FLUSH AREA WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. SEPARATE EYELIDS TO ENSURE ADEQUATE IRRIGATION.

SKIN CONTACT: WASH AFFECTED AREA WITH SOAP AND WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN.

INGESTION: WASH OUT MOUTH WITH WATER. CALL A PHYSICIAN.

==========

5. FIRE AND EXPLOSION HAZARD:

FLASH POINT (METHOD USED): NA

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: NO FIRE HAZARD.

SPECIAL FIRE FIGHTING PROCEDURES: NONE

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

==========

****

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS, STRONG BASES.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: MAY PRODUCE TOXIC FUMES OF CARBON MONOXIDE, CARBON DIOXIDE AND SULFUR OXIDE.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

==========

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR PROTECTIVE CLOTHING. SWEEP UP MATERIAL AND PLACE INTO CONTAINERS SUITABLE FOR DISPOSAL. AVOID RAISING DUST.

WASTE DISPOSAL METHODS: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATION.

==========

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): OSHA/MSHA APPROVED

VENTILATION: LOCAL EXHAUST: MECHANICAL: X
OTHER:

PROTECTIVE GLOVES: CHEMICAL RESISTANT GLOVES.

EYE PROTECTION: CHEMICAL SAFETY GOGGLES.

OTHER PROTECTIVE EQUIPMENT: OTHER PROTECTIVE CLOTHING.

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: LIGHT SENSITIVE. STORE IN COOL DRY PLACE.

OTHER PRECAUTIONS: N/A

==========

10. OTHER INFORMATION: N/A

****

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Helena Laboratories **Working for you**

1530 Lindbergh Dr
PO Box 752
Beaumont, TX 77704-0752
Toll Free 800-231-5663
Local 409-842-3714
FAX (Orders) 409-842-9561
FAX (General) 409-842-6241

PRODUCT NAME: IFE Control Kit (set of 3: IgG/k, IgA/l, IgM)

PRODUCT CATALOG NUMBER: 9400 (Immunofix control)

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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FAX (General) 409-842-6241

PRODUCT NAME: Kemtrol Serum Control Abnormal (10 x 2 mL)

PRODUCT CATALOG NUMBER: 7025

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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FAX (Orders) 409-842-9561
FAX (General) 409-842-6241

PRODUCT NAME: Kemtrol Serum Control Normal (10 x 2 mL)

PRODUCT CATALOG NUMBER: 7024

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 12/6/1991
REVISION: 2

****

1. IDENTIFICATION:

PRODUCT NAME: REP PREP

CATALOG NO.: 3100

2. INGREDIENTS

CHEMICAL NAME/COMMON NAME	CAS #	%
"ZONYL" FSO 100 FLUOROSURFACTANT	NOT APPLICABLE	1.3

ATTACHED IS THE MSDS FOR THE ABOVE NAMED INGREDIENT.

****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: **12/6/1991**
REVISION: **1**

****

1. IDENTIFICATION:

NAME: **"ZONYL" FSO 100 FLUOROSURFACTANT**

CAS #: **NOT APPLICABLE**

CHEMICAL FAMILY: **FLUORINATED SURFACTANT**

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
PERFLUOROALKYL ETHOXYLATE MIXTURE NOT APPLICABLE	**99-100**	**NE**	**NE**

3. PHYSICAL DATA:

BOILING POINT: **200°C AT 760 MM HG.**

SPECIFIC GRAVITY (H_2O = 1): **1.36**

VAPOR PRESSURE (MM HG.): **NA**

MELTING POINT: **NA**

VAPOR DENSITY (AIR = 1): **NA**

EVAPORATION RATE(BUTYL ACETATE=1): **NA**

SOLUBILITY IN WATER: **SLIGHT. LIQUID CLEARS AT 50°C**

APPEARANCE AND ODOR: **BROWN/AMBER VISCOUS LIQUID**

NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? **NA** SKIN? **YES** INGESTION? **NA**

CARCINOGENICITY: NTP? **NA** IARC? **NA** OSHA REGULATED: **NA**

ACUTE EFFECT OF OVEREXPOSURE:

EYES: **NA**

SKIN: **NOT LIKELY**

INHALATION: **NA**

INGESTION: **NA**

CHRONIC EFFECTS OF EXPOSURE: **NA**

TOXICITY DATA: **60% AQUEOUS SOLUTION PRODUCED MILD IRRITATION ON GUINEA PIG SKIN BUT NO IRRITATION OR SENSITIZATION WHEN TESTED AT CONCENTRATIONS AT 25 AND 10%. RAT ORAL LD50 13,792 MG/KG AND WAS NOT AN EYE IRRITANT.**

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: **NA**

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: **IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.**

SKIN CONTACT: **FLUSH SKIN WITH WATER AFTER CONTACT.**

INHALATION: **IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN AND CALL A PHYSICIAN.**

INGESTION: **IF SWALLOWED, DO NOT INDUCE VOMITING. IMMEDIATELY GIVE TWO GLASSES OF WATER, OR ACTIVATED CHARCOAL SLURRY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CALL A PHYSICIAN.**

---

5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): **107°C (225°F) (PMCC)**

FLAMMABLE LIMITS: LEL **NA** UEL **NA**

****

5. FIRE AND EXPLOSION HAZARD DATA (CONT):

EXTINGUISHING MEDIA: **SUITABLE FOR COMBUSTIBLES IN THE AREA.**

SPECIAL FIRE FIGHTING PROCEDURES: **EVACUATE PERSONNEL TO A SAFE AREA. WEAR SELF-CONTAINED BREATHING APPARATUS. AVOID BREATHING DECOMPOSITION PRODUCTS.**

UNUSUAL FIRE AND EXPLOSION HAZARDS: **NON-COMBUSTIBLE**
HEATING ABOVE 200°C OR IN FIRE CONDITIONS TOXIC DECOMPOSITION PRODUCTS MAY BE FORMED. THESE PRODUCTS MAY CAUSE SEVERE EYE, NOSE, THROAT AND LUNG IRRITATION. USE ADEQUATE VENTILATION.

---

6. REACTIVITY DATA:

STABILITY: UNSTABLE: CONDITIONS TO AVOID: **NA**
STABLE: **X**

INCOMPATIBILITY (MATERIALS TO AVOID): **NONE REASONABLY FORSEEABLE**

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: **HEATING ABOVE 200°C IN FIRE CONDITIONS TOXIC DECOMPOSITION PRODUCTS MAY BE FORMED. THESE PRODUCTS MAY CAUSE SEVERE EYE, NOSE, THROAT AND LUNG IRRITATION. USE ADEQUATE VENTILATION.**

HAZARDOUS POLYMERIZATION:
MAY OCCUR: CONDITIONS TO AVOID: **NA**
WILL NOT OCCUR: **X**

---

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: **REVIEW FIRE AND EXPLOSION HAZARDS AND SAFETY PRECAUTIONS BEFORE PROCEEDING WITH CLEAN UP. USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT DURING CLEAN UP.**
SOAK UP WITH SAWDUST, SAND, OIL DRY OR OTHER ABSORBENT MATERIAL.
SHOVEL OR SWEEP UP.
FLUSH SPILL AREA WITH WATER.

WASTE DISPOSAL METHODS: **TREATMENT, STORAGE, TRANSPORTATION AND DISPOSAL MUST BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE/ PROVINCIAL AND LOCAL REGULATIONS.**

---

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): **NA**

VENTILATION: LOCAL EXHAUST: **X** MECHANICAL:
OTHER:

PROTECTIVE GLOVES: **IMPERMEABLE**

****

8. SPECIAL PROTECTION INFORMATION (CONT)

EYE PROTECTION: GOGGLES OR GLASSES WITH SIDE SHIELDS

OTHER PROTECTIVE EQUIPMENT: CLOTHING SUFFICIENT TO MINIMIZE CONTACT.

---

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: KEEP CONTAINER TIGHTLY CLOSED. DO NOT CONSUME FOOD, DRINK OR TOBACCO IN THE AREAS WHERE THEY MAY BECOME CONTAMINATED WITH THIS MATERIAL.

OTHER PRECAUTIONS: NA

---

10. OTHER INFORMATION: NA

****

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****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 9/18/2000
REVISION: 4

****

1. IDENTIFICATION:

SPIFE Immunofixation-6 Kit

PRODUCT NAME: SPIFE IMMUNOFIX-6 KIT
PRODUCT NO.: 3401

==========

2. INGREDIENTS (THE ABOVE KIT CONTAINS THE FOLLOWING ITEMS):

PRODUCT NUMBER	PRODUCT IDENTIFICATION (LABEL NAME)			COMMENTS
551758	ACID VIOLET STAIN			
	HAZARDOUS INGREDIENT	CAS #	%	
	ACID VIOLET 17	4129-84-4	100%	MSDS ATTACHED
551959	CITRIC ACID DESTAIN			
	HAZARDOUS INGREDIENT	CAS #	%	
	CITRIC ACID	77-92-9	100%	MSDS ATTACHED
551715	TRIS BUFFERED SALINE			
	HAZARDOUS INGREDIENT	CAS #	%	
	TRISMA BASE	77-86-1	40%	MSDS ATTACHED
	TRIS HYDROCHLORIDE	1185-53-1	21%	MSDS ATTACHED
551825	SPIFE IMMUNOFIX-6 GEL			
	HAZARDOUS INGREDIENT	CAS #	%	
	BARBITAL SODIUM	144-02-5	1.4%	MSDS ATTACHED
551822	SPIFE IFE-6 ANTISERA KIT			
551823	SPIFE IFE-6 PROTEIN FIXATIVE			
	HAZARDOUS INGREDIENT	CAS #	%	
	TRICHLOROACETIC ACID	76-03-9	<5%	MSDS ATTACHED
	SULFOSALICYLIC ACID	97-05-2	<5%	MSDS ATTACHED

==========

ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 4/12/1999
REVISION: 1

****

1. IDENTIFICATION:

NAME: ACID VIOLET 17

CAS #: 4129-84-4

MOLECULAR FORMULA: C22H16N609S2

==========

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
ACID VIOLET 17 4129-84-4	100.0	NA	

==========

3. PHYSICAL DATA:

BOILING POINT: NA

SPECIFIC GRAVITY (H2O = 1): APPROXIMATELY 1

VAPOR PRESSURE (MM HG.): NA

MELTING POINT: N/A

VAPOR DENSITY (AIR = 1): NA

APPEARANCE AND ODOR: VIOLET POWDER, NO CHARACTERISTIC ODOR

SOLUBILITY IN WATER: 10 g/L @ 20°C

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NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? YES SKIN? YES INGESTION? YES

CARCINOGENICITY: NTP? NO IARC? NO

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: MAY CAUSE SEVERE IRRITATION.

SKIN: MAY CAUSE IRRITATION.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE GASTRIC DISTURBANCES.

INGESTION: MAY BE HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION.

CHRONIC EFFECTS OF EXPOSURE: THE TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

TOXICITY DATA: NO DATA AVAILABLE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NIF

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IN CASE OF EYE CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SKIN CONTACT: IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

==========

5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): NA

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: WATER SPRAY, CARBON DIOXIDE, OR DRY CHEMICAL.

****

5. FIRE AND EXPLOSION HAZARD (CONT):

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: MAY FORM EXPLOSIVE DUST/AIR MIXTURE.

==========

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZING AND REDUCING AGENTS.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES, SULFUR OXIDES.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

==========

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR PROTECTIVE EQUIPMENT. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST.

WASTE DISPOSAL METHODS: OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.

==========

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): APPROPRIATE NIOSH/MSHA-APPROVED

VENTILATION: LOCAL EXHAUST: REQUIRED MECHANICAL: REQUIRED
OTHER:

PROTECTIVE GLOVES: CHEMICAL RESISTANT

EYE PROTECTION: SAFETY GOGGLES

OTHER PROTECTIVE EQUIPMENT: OTHER PROTECTIVE CLOTHING

==========

****

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: KEEP AWAY FROM EXCESSIVE HEAT AND MOISTURE. KEEP CONTAINERS CLOSED.

OTHER PRECAUTIONS: NA

==========

10. OTHER INFORMATION: NA

****

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****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 11/10/1999
REVISION: 1

****

1. IDENTIFICATION:

NAME: CITRIC ACID

77-92-9

==========

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
CITRIC ACID 77-92-9	100	NA	NA

==========

3. PHYSICAL DATA:

BOILING POINT: NIF

SPECIFIC GRAVITY (H2O = 1): 1.665

VAPOR PRESSURE (MM HG.): NA

MELTING POINT: APPROX. 300°F

VAPOR DENSITY (AIR = 1): NA

APPEARANCE AND ODOR: ODORLESS WHITE CRYSTALS

SOLUBILITY IN WATER: 50%

==========

NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? X SKIN? X INGESTION?

CARCINOGENICITY: NTP? NE IARC? NE

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: IRRITANT TO EYES.

SKIN: IRRITANT AFTER PROLONGED CONTACT.

INHALATION: MAY IRRITATE THE NOSE AND THROAT.

INGESTION: NONE CURRENTLY KNOWN.

CHRONIC EFFECTS OF EXPOSURE: PROLONGED EXPOSURE MAY DAMAGE TOOTH ENAMEL.

TOXICITY DATA: ORAL RAT, LD50=11,700 MG/KG

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE

EMERGENCY AND FIRST AID PROCEDURES:

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF SKIN CONTACT: IMMEDIATELY WASH SKIN WITH LOTS OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION PERSISTS AFTER WASHING.

IF SWALLOWED: TREATMENT NOT NORMALLY REQUIRED.

NOTES TO PHYSICIAN: NONE.

==========

5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): NONE

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: MEDIA FOR SURROUNDING FIRE.

SPECIAL FIRE FIGHTING PROCEDURES: NONE

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

==========

****

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG ALKALIES

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: NONE

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

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7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR PROTECTIVE EQUIPMENT INCLUDING RUBBER BOOTS, RUBBER GLOVES, RUBBER APRON, AND A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CARTRIDGE RESPIRATOR WITH PARTICULATE FILTERS. WEAR CHEMICAL GOGGLES IF A HALF MASK IS WORN. FOR SMALL SPILLS, SWEEP UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, SHOVEL INTO DOT-APPROVED WASTE CONTAINERS. KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS, AND SOIL.
COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

WASTE DISPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.
NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

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8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE

VENTILATION: LOCAL EXHAUST: X MECHANICAL:
OTHER:

PROTECTIVE GLOVES: CHEMICAL RESISTANT

EYE PROTECTION: CHEMICAL GOGGLES

OTHER PROTECTIVE EQUIPMENT: LAB COAT

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN A COOL DRY PLACE.

OTHER PRECAUTIONS: NA

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10. OTHER INFORMATION:

NA

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The information herein is given in good faith but no warranty, expressed or implied, is made.

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MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

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DATE PREPARED: 3/11/1992
REVISION: 2

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1. IDENTIFICATION:

NAME: TRIZMA BASE REAGENT GRADE

CAS #: 77-86-1

SYNONYMS: ADDEX-THAM * 2-AMINO-2-(HYDROXYMETHYL) PROPANE-1,3,-DIOL * 2-AMINO-2- (HYDROXYMETHYL)-1,3-PROPANEDIOL * 2-AMINO-2-METHYLOL-1,3-PROPANEDIOL * AMINOTRIMETHYLOLMETHANE * AMINOTRIS (HYDROXYMETHYL) METHANE * METHYLAMINE, 1,1,1-TRIS(HYDROXYMETHYL)- * PEHANORM * TALATROL * THAM * THAM-E * THAM SET * TRIMETHYLOLAMINOMETHANE * TRIS * TRISAMINE * TRIS-AMINO * TRISAMINOL * TRIS BUFFER * TRIS-HYDROXYMETHYLAMINOMETHAN (GERMAN) * TRIS-HYDROXYMETHYLAMINOMETHANE * TRIS (HYDROXYMETHYL) METHANAMINE * TRIS(HYDROXYMETHYL) METHYLAMINE * TRISPUFFER * IRIS-STERIL * TROMETAMOL * TROMETAMOLE * TROMETHAMINE * TROMETHANE * TROMETHANMIN * TUTOFUSIN IRIS *

MOLECULAR FORMULA: $C_4H_{11}NO_3$

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2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	 ACGIH TLV
TRIZMA BASE REAGENT GRADE 77-86-1	100	NIF	NIF

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3. PHYSICAL DATA:

BOILING POINT: 219°C TO 220°C/10 MM

SPECIFIC GRAVITY (H_2O = 1): NIF

VAPOR PRESSURE (MM HG.): NA

MELTING POINT: 171.2 TO 172.3°C

VAPOR DENSITY (AIR = 1): NIF

APPEARANCE AND ODOR: WHITE CRYSTALS

SOLUBILITY IN WATER: SOLUBLE

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NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

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4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? YES SKIN? YES INGESTION? YES

CARCINOGENICITY: NTP? NO IARC? NO

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: MAY CAUSE EYE IRRITATION.

SKIN: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION.

INHALATION: MAY BE HARMFUL IF INHALED. MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

INGESTION: MAY BE HARMFUL IF INGESTED.

CHRONIC EFFECTS OF EXPOSURE: NIF

TOXICITY DATA:
RTECS NO: TY2900000
1,3-PROPANEDIOL, 2-AMINO-2-(HYDROXYMETHYL)-
TOXICITY DATA:
ORL-RAT LD50:5900 MG/KG BCFAAI 110,653,71
IVN-MUS LD50:1210 MG/KG ABMGAJ 17,217,66
REVIEWS, STANDARDS, AND REGULATIONS:
NOHS 1974: HZD 81165; NIS 4; TNF 850; NOS 6; TNE 7274
NOES 1983: HZD 81165000; TNF 9; NIS 2296; NOS 22; TNE 40897;
TFE 30773 EPA TSCA CHEMICAL INVENTORY, JUNE 1990
TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (MUSCLE WEAKNESS)
BEHAVIORAL (COMA)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NIF

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

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4. HEALTH HAZARD DATA (CONT):

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

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5. FIRE AND EXPLOSION HAZARD:

FLASH POINT (METHOD USE): NA

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID):
BASES
OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: THERMAL DECOMPOSITION MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, AND NITROGEN OXIDES.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

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7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHODS: OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.

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8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): NIOSH/MSHA-APPROVED RESPIRATOR

VENTILATION: LOCAL EXHAUST: MECHANICAL: X
OTHER:

PROTECTIVE GLOVES: COMPATIBLE CHEMICAL-RESISTANT GLOVES

EYE PROTECTION: SAFETY GOGGLES

OTHER PROTECTIVE EQUIPMENT: WEAR SUITABLE PROTECTIVE CLOTHING

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

COMPATIBLE CHEMICAL-RESISTANT GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
IRRITANT.
KEEP TIGHTLY CLOSED.
HYGROSCOPIC
STORE IN A COOL DRY PLACE.

OTHER PRECAUTIONS: IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. WEAR SUITABLE PROTECTIVE CLOTHING.

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10. OTHER INFORMATION: NIF

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****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 12/17/1998
REVISION: 2

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1. IDENTIFICATION:

PRODUCT NAME: TRIS HYDROCHLORIDE

CAS #: 1185-53-1

MOLECULAR FORMULA: C4H11NO3

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2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
TRIS HYDROCHLORIDE	21	NIF	

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3. PHYSICAL DATA:

BOILING POINT: NIF

SPECIFIC GRAVITY (H2O = 1): N/A

VAPOR PRESSURE (MM HG.): NIF

MELTING POINT: 150-151°C

VAPOR DENSITY (AIR = 1): NIF

APPEARANCE AND ODOR: TRANSPARENT COLORLESS CRYSTALS. ODORLESS

SOLUBILITY IN WATER: SOLUBLE

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NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

WARNING! HARMFUL IF SWALLOWED. CAUSES IRRITATION.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? SKIN? INGESTION?

INHALATION:	MAY CAUSE IRRITATION TO THE MUCOUS MEMBRANES.
INGESTION:	MILD ALKALI. MAY CAUSE IRRITATION AND REDDENING TO THE MUCOUS MEMBRANES OF THE MOUTH, ESOPHAGUS, AND GASTROINTESTINAL TRACT. LARGE ORAL DOSES MAY CAUSE WEAKNESS, COLLAPSE, AND COMA.
SKIN CONTACT:	MAY CAUSE IRRITATION, REDNESS, AND PAIN.
EYE CONTACT:	MAY CAUSE IRRITATION, REDNESS, PAIN, AND CORNEAL DAMAGE.
CHRONIC EXPOSURE:	CHRONIC DERMATITIS MAY FOLLOW SKIN CONTACT.
AGGREVATION OF PRE-EXISTING CONDITIONS:	NO INFORMATION FOUND.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION:	REMOVE TO FRESH AIR. GET MEDICAL ATTENTION FOR ANY BREATHING DIFFICULTY.
INGESTION:	IF SWALLOWED, INDUCE VOMITING IMMEDIATELY BY GIVING TWO GLASSES OF WATER, OR MILK IF AVAILABLE AND STICKING FINGER DOWN THROAT. CALL A PHYSICIAN IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
SKIN EXPOSURE:	REMOVE ANY CONTAMINATED CLOTHING. WASH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IF IRRITATION DEVELOPS, GET MEDICAL ATTENTION.
EYE EXPOSURE:	WASH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, LIFTING LOWER AND UPPER EYELIDS OCCASIONALLY. GET MEDICAL ATTENTION IMMEDIATELY.

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5. FIRE AND EXPLOSION HAZARD:

FIRE: AS WITH MOST ORGANIC SOLIDS, FIRE IS POSSIBLE AT ELEVATED TEMPERATURES OR BY CONTACT WITH AN IGNITION SOURCE. SLIGHT FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

EXPLOSION: NOT CONSIDERED TO BE AN EXPLOSION HAZARD.

FIRE EXTINGUISHING MEDIA: WATER SPRAY, DRY CHEMICAL, ALCOHOL FOAM, OR CARBON DIOXIDE.

SPECIAL INFORMATION: IN THE EVENT OF A FIRE, WEAR FULL PROTECTIVE CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN THE PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE.

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6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): COPPER, BRASS, ALUMINUM OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: OXIDES OF NITROGEN AND CARBON.

HAZARDOUS POLYMERIZATION:

WILL NOT OCCUR: X

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7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: VENTILATE THE AREA OF THE LEAK OR SPILL. REMOVE ALL SOURCES OF IGNITION. SWEEP UP AND PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A RCRA APPROVED CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. COLLECTED WASTE MAY BE TRANSFERRED TO A CLOSED, PREFERABLY METAL, CONTAINER AND SENT TO AN APPROVED WASTE DISPOSAL FACILITY.

WASTE DISPOSAL METHODS: ENSURE COMPLIANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

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8. SPECIAL PROTECTION INFORMATION:

VENTILATION SYSTEM: A LOCAL EXHAUST SYSTEM WHICH CAPTURES THE CONTAMINANT AT ITS SOURCE IS RECOMMENDED TO PREVENT DISPERSION OF THE CONTAMINANT INTO THE WORKROOM AIR.

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8. SPECIAL PROTECTION INFORMATION (CONT):

PERSONAL RESPIRATORS: (NIOSH APPROVED)
FOR CONDITIONS OF USE WHERE EXPOSURE TO THE DUST IS APPARENT, A DUST/MIST RESPIRATOR MAY BE WORN. FOR EMERGENCIES, A SELF-CONTAINED BREATHING APPARATUS MAY BE NECESSARY.

SKIN PROTECTION: WEAR PROTECTIVE GLOVES AND CLEAN BODY-COVERING CLOTHING.

EYE PROTECTION: USE CHEMICAL SAFETY GOGGLES AND/OR FULL FACE SHIELD WHERE DUSTING OR SPLASHING OF SOLUTIONS IS POSSIBLE. CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH THIS MATERIAL. MAINTAIN EYE WASH FOUNTAIN AND QUICK-DRENCH FACILITIES IN WORK AREA.

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: NO EXCEPTIONAL PRECAUTIONS.

OTHER PRECAUTIONS: NA

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10. OTHER INFORMATION: NIF

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MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 3/11/1992
REVISION: 2

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1. IDENTIFICATION:

NAME: BARBITAL SODIUM
CAS #: 144-02-5

SYNONYMS: BARBITAL NA * BARBITAL SODIUM * BARBITAL, SODIUM DERIV. * BARBITAL SOLUBLE * BARBITONE SODIUM * BARBITONE, SODIUM DERIV. * DIETHYLBARBITURATE MONOSODIUM * 5,5-DIETHYLBARBITURIC ACID SODIUM DERIV. * DIETHYLMALONYLUREA SODIUM * EMBINAL * MEDINAL * NATRINAL * NATRIUMBARBITALS (GERMAN) * NERVOSETON * 2,4,6,(1H,3H,5H)-PYRIMIDINETRIONE, 5,5-DIETHYL-, MONOSODIUM SALT (9CI) * SODIUM BARBITAL * SODIUM BARBITONE * SODIUM DIETHYLBARBITURATE * SODIUM 5,5-DIETHYLBARBITAL * SODIUM ETHYLBARBITAL * SODIUM MALONYLUREA * SODIUM VERONAL * SOLUBLE BARBITAL * SOPRINAL * THYALONE * VERONAL SODIUM *

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2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
BARBITAL SODIUM 144-02-5	100	NIF	NIF

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3. PHYSICAL DATA:

BOILING POINT: NA

SPECIFIC GRAVITY (H2O = 1): NIF

VAPOR PRESSURE (MM HG.): NA

MELTING POINT: 190°C

VAPOR DENSITY (AIR = 1): NA

APPEARANCE AND ODOR: SOLID

SOLUBILITY IN WATER: WATER SOLUBLE

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NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? X SKIN? X INGESTION? X

CARCINOGENICITY: NTP: NO IARC: NO

ACUTE EFFECTS OF OVEREXPOSURE: INCLUDE SEDATION, HYPNOSIS AND COMA DEPENDING UPON AMOUNT INGESTED. HAS BEEN IMPLICATED IN THE DEVELOPMENT OF APLASTIC ANEMIA.

EYES: MAY CAUSE IRRITATION.

SKIN: MAY CAUSE IRRITATION. MAY CAUSE ALLERGIC REACTION.

INHALATION: MAY BE HARMFUL IF INHALED.

INGESTION: HARMFUL IF SWALLOWED.

TOXICITY DATA:

RTECS NO: CQ3850000
BARBITURIC ACID, 5,5-DIETHYL-, SODIUM SALT
TOXICITY DATA

ORLA-RAT	LD50:600 MG/KG	ARTODN	54,275,83
IVN-RAT	LD50:280 MG/KG	JPETAB	135,213,62
ORL-MUS	LD50:800 MG/KG	TXAPA9	27,70,74
IPR-MUS	LD50:620 MG/KG	JPETAB	87,265,46
SCU-MUS	LD50:700 MG/KG	JPETAB	109,268,53
IVN-MUS	LD50:830 MG/KG	TXAPA9	27,70,74
IPR-RBT	LD50:250 MG/KG	JPETAB	42,253,31

REVIEWS, STANDARDS, AND REGULATIONS
NOHS 1974: HZD MO315; NIS 5; TNF 1799; NOS 10; TNE 12999
NOES 1983: HZA MO315000; TNF 3; NIS 757; NOS 12; TNE 16027 TFE 12575
TARGET ORGAN DATA
SENSE ORGANS AND SPECIAL SENSES (MYDRIASIS)
BEHAVIORAL (GENERAL ANESTHETIC)
BEHAVIORAL (SLEEP)
KIDNEY, URETER, BLADDER (KIDNEY TUMORS)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON FERTILITY (OTHER MEASURES OF FERTILITY)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CENTRAL NERVOUS SYSTEM)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (CRANIOFACIAL)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (BODY WALL)
SPECIFIC DEVELOPMENTAL ABNORMALITIES (MUSCULOSKELETAL SYSTEM)
EFFECTS ON NEWBORN (BEHAVIORAL)
TUMORIGENIC (EQUIVOCAL TUMORIGENIC AGENT BY RTECS CRITERIA)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NIF

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4. HEALTH HAZARD DATA (CONT):

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SKIN CONTACT: IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

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5. FIRE AND EXPLOSION HAZARD:

FLASH POINT (METHOD USE): NA

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM. WATER SPRAY.

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

==========

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): NIF

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: TOXIC FUMES OF CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

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7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED. WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHODS: CONTACT THE DRUG ENFORCEMENT ADMINISTRATION CONCERNING THE DISPOSAL OF CONTROLLED SUBSTANCES.

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8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): NIOSH/MSHA-APPROVED

VENTILATION: LOCAL EXHAUST: MECHANICAL:
OTHER: USE ONLY IN A CHEMICAL FUME HOOD.

PROTECTIVE GLOVES: COMPATIBLE CHEMICAL-RESISTANT GLOVES.

EYE PROTECTION: CHEMICAL SAFETY GOGGLES.

OTHER PROTECTIVE EQUIPMENT: NIOSH/MSHA-APPROVED RESPIRATOR

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: TARGET ORGAN(S): NERVES. DO NOT BREATHE DUST. IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE (SHOW THE LABEL WHERE POSSIBLE). WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION. KEEP CONTAINER TIGHTLY CLOSED IN A COOL WELL VENTILATED PLACE.

OTHER PRECAUTIONS: TOXIC. MAY CAUSE BIRTH DEFECTS. HARMFUL IF SWALLOWED. MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

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10. OTHER INFORMATION: NIF

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****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 5/24/1999
REVISION: 1

****

1. IDENTIFICATION:

NAME: TCA, TRICHLOROACETIC ACID

CAS #: 76-03-9

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2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
TRICHLOROACETIC ACID 76-03-9	100	NA	1 PPM

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3. PHYSICAL DATA:

BOILING POINT: 198°C (388°F)

SPECIFIC GRAVITY (H2O = 1): 1.6

VAPOR PRESSURE (MM HG.): 1.3 @ 51°C (124°F)

MELTING POINT: 58°C (136°F)

VAPOR DENSITY (AIR = 1): NIF

APPEARANCE AND ODOR: WHITE HYGROSCOPIC CRYSTALS. PUNGENT ODOR.

SOLUBILITY IN WATER: VERY SOLUBLE IN WATER

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NA = Not Applicable
NL = Not Listed

NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? YES SKIN? YES INGESTION? YES

CARCINOGENICITY: NTP? NO IARC? NO

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: CORROSIVE. REDNESS, PAIN, BLURRED VISION CAN OCCUR. CAN CAUSE BURNS AND PERMANENT EYE DAMAGE.

SKIN: CORROSIVE. REDNESS, PAIN, SKIN BURNS CAN OCCUR.

INHALATION: INHALATION OF DUST MAY CAUSE COUGHING, CHOKING, WITH VARIABLE SYMPTOMS OF HEADACHE, DIZZINESS, AND WEAKNESS. MAY CAUSE LUNG EDEMA.

INGESTION: CORROSIVE. SORE THROAT, SEVERE ABDOMINAL PAIN, VOMITING, AND TISSUE DAMAGE MAY OCCUR.

CHRONIC EFFECTS OF EXPOSURE: LONG EXPOSURES TO ACID FUMES MAY CAUSE EROSION OF THE TEETH FOLLOWED BY JAW NECROSIS. BRONCHIAL IRRITATION WITH CHRONIC COUGH AND FREQUENT ATTACKS OF BRONCHIAL PNEUMONIA MAY ALSO OCCUR.

TOXICITY DATA: SKIN RABBIT, STANDARD DRAIZE, 210 UG, MILD; EYE RABBIT, STANDARD DRAIZE, 3500 UG/5S, SEVERE; INVESTIGATED AS A TUMORIGEN, MUTAGEN, AND REPRODUCTIVE EFFECTOR.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IMMEDIATELY FLUSH EYES WITH GENTLE BUT LARGE STREAM OF WATER FOR AT LEAST 15 MINUTES, LIFTING LOWER AND UPPER EYELIDS OCCASIONALLY. CALL A PHYSICIAN IMMEDIATELY.

SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN, IMMEDIATELY. WASH CLOTHING BEFORE REUSE.

INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN IMMEDIATELY.

INGESTION: IF SWALLOWED, DO NOT INDUCE VOMITING. GIVE LARGE QUANTITIES OF WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDIAL ATTENTION IMMEDIATELY.

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5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): NA

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: USE ANY MEANS SUITABLE FOR EXTINGUISHING SURROUNDING FIRE. WATER SPRAY MAY BE USED TO KEEP FIRE EXPOSED CONTAINERS COOL. WATER SPRAY WILL ALSO REDUCE FUMES AND IRRITANT GASES. AQUEOUS SOLUTIONS ARE ACIDIC AND CAN REACT WITH MOST COMMON METALS TO RELEASE FLAMMABLE HYDROGEN GAS.

SPECIAL INFORMATION: IN THE EVENT OF A FIRE, WEAR FULL PROTECTIVE CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN THE PRESSURE DEMAND OR OTHER POSITIVE PRESSURE MODE.

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6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG BASES. HEATING WITH ALKALI YIELDS CHLOROFORM AND ALKALI CARBONATE. ACID SOLUTIONS IN WATER CAN REACT WITH METALS TO LIBERATE HYDROGEN GAS.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, CHLOROFORM, HYDROGEN CHLORIDE, PHOSGENE.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

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7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: VENTILATE AREA OF LEAK OR SPILL. CLEAN-UP PERSONNEL NEED PROTECTION AGAINST INHALATION OR CONTACT WITH SUBSTANCE. COVER SPILL WITH EXCESS SODIUM BICARBONATE. CAREFULLY SWEEP UP THE MATERIAL AND PLACE IN A CORROSIVE RESISTANT CONTAINER FOR DISPOSAL. IF MATERIAL HAS MIXED WITH WATER, AFTER NEUTRALIZING MATERIAL WITH SODIUM BICARBONATE, ABSORB WITH AN INERT MATERIAL (E.G., VERMICULITE, DRY SAND, EARTH) AND PLACE IN A CORROSION RESISTANT CONTAINER. DO NOT USE COMBUSTIBLE MATERIALS, SUCH AS SAWDUST. DO NOT FLUSH TO SEWER.

WASTE DISPOSAL METHODS: DISPOSE OF CONTAINER AND UNUSED CONTENTS.

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8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): NIOSH APPROVED RESPIRATOR

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8. SPECIAL PROTECTION INFORMATION: (CONT)

RESPIRATORY PROTECTION (SPECIFY TYPE): NIOSH APPROVED RESPIRATOR

VENTILATION: LOCAL EXHAUST: MECHANICAL: X
OTHER:

PROTECTIVE GLOVES: COMPATIBLE CHEMICAL-RESISTANT GLOVES

EYE PROTECTION: SAFETY GOGGLES/OR FULL FACE SHIELD

OTHER PROTECTIVE EQUIPMENT: WEAR SUITABLE PROTECTIVE CLOTHING

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: KEEP IN TIGHTLY CLOSED CONTAINER, STORED IN A COOL, DRY, VENTILATED AREA. PROTECT AGAINST PHYSICAL DAMAGE. ISOLATE FROM INCOMPATIBLE SUBSTANCES. CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTY SINCE THEY RETAIN PRODUCT RESIDUES (DUST, SOLIDS); OBSERVE ALL WARNINGS AND PRECAUTIONS LISTED FOR THE PRODUCT.

OTHER PRECAUTIONS: CORROSIVE. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. HARMFUL IF SWALLOWED OR INHALED. INHALATION MAY CAUSE LUNG DAMAGE. IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE RE-USE. EXCESS ACID ON SKIN CAN BE NEUTRALIZED WITH A 2% BICARBONATE OF SODA SOLUTION. IF SWALLOWED, DO NOT INDUCE VOMITING.

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10. OTHER INFORMATION: NIF

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The information herein is given in good faith but no warranty, expressed or implied, is made.

****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 5/24/1999
REVISION: 1

****

1. IDENTIFICATION:

NAME: 5-SULFOSALICYLIC ACID

CAS #: 97-05-2

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2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
5-SULFOSALICYLIC ACID	100	NE	NE

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3. PHYSICAL DATA:

BOILING POINT: NA

SPECIFIC GRAVITY (H2O = 1): NA

VAPOR PRESSURE (MM HG.): 0

MELTING POINT: 108°C

VAPOR DENSITY (AIR = 1): NA

APPEARANCE AND ODOR: WHITE CRYSTALLINE SOLID HAVING NO ODOR.

SOLUBILITY IN WATER: 180 G/100 G

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NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

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4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? YES SKIN? YES INGESTION? YES

CARCINOGENICITY: NTP? NO IARC? NO

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: SEVERE IRRITATION.

SKIN: HARMFUL IF ABSORBED THROUGH SKIN. SEVERE IRRITATION.

INHALATION: MAY BE FATAL DUE TO SPASM, INFLAMMATION, AND EDEMA OF LARNYX AND BRONCHI EDEMA.

INGESTION: HARMFUL IF SWALLOWED.

CHRONIC EFFECTS OF EXPOSURE:

TOXICITY DATA: ORAL RAT LD MO: 2450 MG/KG
ORAL RABBIT LDLO: 1300 MG/KG

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NIF

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: FLUSH AREA WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. SEPARATE EYELIDS TO ENSURE ADEQUATE IRRIGATION.

SKIN CONTACT: WASH AFFECTED AREA WITH SOAP AND WATER WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN IMMEDIATELY.

INGESTION: WASH OUT MOUTH WITH WATER. CALL A PHYSICIAN.

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5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): NA

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: NO FIRE HAZARD.

SPECIAL FIRE FIGHTING PROCEDURES: NONE

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

011539

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6. REACTIVITY DATA:

STABILITY: X UNSTABLE: STABLE: YES

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS, STRONG BASES.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: MAY PRODUCE TOXIC FUMES OF CARBON MONOXIDE, CARBON DIOXIDE, AND SULFUR OXIDE.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

==========

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: EVACUATE AREA. WEAR ALL PROTECTIVE CLOTHING AS REQUIRED. AVOID RAISING DUST. SWEEP UP MATERIAL AND PLACE INTO CONTAINERS SUITABLE FOR DISPOSAL. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHODS: DISPOSE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

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8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): OSHA/MSHA APPROVED RESPIRATOR

VENTILATION: LOCAL EXHAUST: X MECHANICAL: X
OTHER:

PROTECTIVE GLOVES: CHEMICAL-RESISTANT GLOVES

EYE PROTECTION: SAFETY GOGGLES

OTHER PROTECTIVE EQUIPMENT: FACE SHIELD AND PROTECTIVE CLOTHING.

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: DO NOT BREATHE DUST. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. WASH THOROUGHLY AFTER HANDLING.

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10. OTHER INFORMATION: NIF

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Helena Laboratories Working for you

1530 Lindbergh Dr
PO Box 752
Beaumont, TX 77704-0752
Toll Free 800-231-5663
Local 409-842-3714
FAX (Orders) 409-842-9561
FAX (General) 409-842-6241

PRODUCT NAME: Tris Buffered Saline (1 x 125 mL)

PRODUCT CATALOG NUMBER: 5365

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 10/16/2002
REVISION: 1

****

1. IDENTIFICATION:

PRODUCT NAME: **SUPRE-HEME BUFFER**

PRODUCT NO.: 5802

2. INGREDIENTS (THE ABOVE KIT CONTAINS THE FOLLOWING ITEMS):

PRODUCT NUMBER	PRODUCT IDENTIFICATION (LABEL NAME)	COMMENTS
5802	SUPRE-HEME BUFFER	

HAZARDOUS INGREDIENT	CAS #	%	
EDTA ACID	60-00-4	4	MSDS ATTACHED
BORIC ACID	10043-35-3	21	MSDS ATTACHED

ATTACHED IS/ARE THE MSDS(S) FOR THE ABOVE NAMED HAZARDOUS INGREDIENT(S).

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HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 10/16/2002
REVISION: 1

****

1. IDENTIFICATION:

NAME: EDTA ACID

CAS #: 60-00-4

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
EDTA ACID	100	NL	NL

3. PHYSICAL DATA:

BOILING POINT:

SPECIFIC GRAVITY (H_2O = 1): 0.86 @ 20°C

VAPOR PRESSURE (MM HG.): NEGLIGIBLE

MELTING POINT: 250°C

VAPOR DENSITY (AIR = 1): NA

SOLUBILITY IN WATER: SLIGHTLY SOLUBLE

APPEARANCE AND ODOR: COLORLESS TO WHITE CRYSTALS

NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? **X** SKIN? **X** INGESTION? **X**

CARCINOGENICITY: NTP? **NL** IARC? **NL**

ACUTE EFFECT OF OVEREXPOSURE:

EYES: **CAUSES EYE IRRITATION. CAUSES REDNESS AND PAIN.**

SKIN: **CAUSES SKIN IRRITATION. CAUSES REDNESS AND PAIN.**

INGESTION: **MAY CAUSE GASTROINTESTINAL IRRITATION WITH NAUSEA, VOMITING AND DIARRHEA. INGESTION OF LARGE AMOUNTS CAN CAUSE HYPOCALCEMIC TETANY DUE TO FORMATION OF CALCIUM COMPLEXES. EXPOSURE MAY CAUSE KIDNEY INJURY, MUSCLE CRAMPS, BONE-MARROW DEPRESSION, AND A GENERALIZED ALLERGIC REACTION. INGESTION OF LARGE QUANTITIES MAY CAUSE APPRECIABLE SYSTEMIC TOXICITY INVOLVING BLOOD CHEMISTRY CHANGES DUE TO CHELATION PROPERTIES.**

INHALATION: **CAUSES IRRITATION OF THE MUCOUS MEMBRANE AND UPPER RESPIRATORY TRACT.**

CHRONIC EFFECTS OF EXPOSURE: **MAY CAUSE REPRODUCTIVE AND FETAL EFFECTS. LABORATORY EXPERIMENTS HAVE RESULTED IN MUTAGENIC EFFECTS. CHRONIC EXPOSURE MAY CAUSE KIDNEY DAMAGE.**

TOXICITY DATA:
IPR-RAT LD50:397 MG/KG
ORL-MUS LD50:30 MG/KG
IPR-MUS LD50:250 MG/KG
IVN-MUS LD50:28500 UG/KG

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: **BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)**

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: **IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE UPPER AND LOWER EYELIDS. GET MEDICAL AID.**

SKIN CONTACT: **GET MEDICAL AID. IMMEDIATELY FLUSH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE REUSE.**

****

4. HEALTH HAZARD DATA (CONT)

INHALATION: **REMOVE FROM EXPOSURE TO FRESH AIR IMMEDIATELY. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET MEDICAL AID.**

INGESTION: **NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL AID. DO NOT INDUCE VOMITING. IF CONSCIOUS AND ALERT, RINSE MOUTH AND DRINK 2-4 CUPFULS OF MILK OR WATER.**

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5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): **NA**

FLAMMABLE LIMITS: LEL **NIF** UEL **NIF**

EXTINGUISHING MEDIA: **USE WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE, OR APPROPRIATE FOAM.**

SPECIAL FIRE FIGHTING PROCEDURES: **WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.**

UNUSUAL FIRE AND EXPLOSION HAZARDS: **EMITS TOXIC FUMES UNDER FIRE CONDITIONS.**

---

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: **X**

INCOMPATIBILITY (MATERIALS TO AVOID): **STRONG OXIDIZING AGENTS, STRONG BASES, ALUMINUM, COPPER, COPPER ALLOYS, NICKEL.**

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: **NITROGEN OXIDES, CARBON MONOXIDE, IRRITATING AND TOXIC FUMES AND GASES, CARBON DIOXIDE.**

HAZARDOUS POLYMERIZATION:
MAY OCCUR: WILL NOT OCCUR: **X**

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7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: **VACUUM OR SWEEP UP MATERIAL AND PLACE INTO A SUITABLE DISPOSAL CONTAINER. AVOID RUNOFF INTO STORM SEWERS AND DITCHES WHICH LEAD TO WATERWAYS. CLEAN UP SPILLS IMMEDIATELY, OBSERVING PRECAUTIONS IN THE PROTECTIVE EQUIPMENT SECTION. AVOID GENERATING DUSTY CONDITIONS. PROVIDE VENTILATION.**

****

7. SPILL OR LEAK PROCEDURES (CONT):

WASTE DISPOSAL METHODS: **DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.**

---

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): **NIOSH/MSHA-APPROVED RESPIRATOR.**

VENTILATION: LOCAL EXHAUST: MECHANICAL: **X**
OTHER:

PROTECTIVE GLOVES: **COMPATIBLE CHEMICAL-RESISTANT GLOVES.**

EYE PROTECTION: **CHEMICAL SAFETY GOGGLES.**

OTHER PROTECTIVE EQUIPMENT: **NONE**

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: **STORE IN COOL DRY PLACE.**

OTHER PRECAUTIONS:

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10. OTHER INFORMATION:

NONE

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MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 10/16/2002
REVISION: 1

****

1. IDENTIFICATION:

NAME: BORIC ACID (ORTIBOR)

CAS #: 10043-35-3

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
ORTIBOR BORIC ACID	> 99	15 MG/M3	10 MG/M3

3. PHYSICAL DATA:

BOILING POINT:

SPECIFIC GRAVITY (H_2O = 1): 1.51

VAPOR PRESSURE (MM HG.): NEGLIGIBLE

MELTING POINT: 170.9°C (340°F)

VAPOR DENSITY (AIR = 1): NIF

pH: 5.1 (1.0% SOLUTION)

SOLUBILITY IN WATER:
4.7% @ 20°C
27.5% @ 100°C

APPEARANCE AND ODOR: WWHITE ODORLESS SOLID

NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? **X** SKIN? INGESTION?

CARCINOGENICITY: NTP? IARC?

ACUTE EFFECT OF OVEREXPOSURE:

EYES: **NON-IRRITANT**

SKIN: **NON-IRRITANT**

INHALATION: **OCCASIONAL MILD IRRITATION EFFECTS TO NOSE AND THROAT MAY OCCUR FROM INHALATION OF OPTIBOR DUST AT LEVELS GREATER THAN 10 MG/M3.**

INGESTION: **OPTIBOR HAS A LOW ACUTE TOXICITY. SMALL AMOUNTS (E.G., A TEASPOONFUL) SWALLOWED ACCIDENTALLY ARE NOT LIKELY TO CAUSE EFFECTS; SWALLOWING AMOUNTS LARGER THAN THAT MAY CAUSE GASTROINTESTINAL SYMPTOMS.**

CHRONIC EFFECTS OF EXPOSURE: **HUMAN EPIDEMIOLOGICAL STUDIES SHOW NO INCREASE IN PULMONARY DISEASE IN OCCUPATIONAL POPULATIONS WITH CHRONIC EXPOSURES TO BORIC ACID DUST AND SODIUM BORATE DUST. A RECENT EPIDEMIOLOGY STUDY UNDER THE CONDITIONS OF NORMAL OCCUPATIONAL EXPOSURE TO BORATE DUSTS INDICATED NO EFFECT ON FERTILITY.**

TOXICITY DATA:
INGESTION: LOW ACUTE ORAL TOXICITY; LD50 IN RATS IS 3,500 TO 4,100 MG/KG OF BODY WEIGHT.
SKIN/DERMAL: LOW ACUTE DERMAL TOXICITY; LD50 IN RABBITS IS GREATER THAN 2,000 MG/KG OF BODY WEIGHT. OPTIBOR IS POORLY ABSORBED THROUGH INTACT SKIN.
INHALATION: LOW ACUTE INHALATION TOXICITY; LC50 IN RATS IS GREATER THAN 2.0 MG/L (OR G/M3).

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: **USE EYE WASH FOUNTAIN OR FRESH WATER TO CLEANSE EYE. IF IRRITATION PERSISTS FOR MORE THAN 30 MINUTES, SEEK MEDICAL ATTENTION.**

SKIN CONTACT: **NO TREATMENT NECESSARY BECAUSE NON-IRRITATING.**

INHALATION: **IF SYMPTOMS SUCH AS NOSE OR THROAT IRRITATION ARE OBSERVED, REMOVE PERSON TO FRESH AIR.**

****

4. HEALTH HAZARD DATA (CONT):

INGESTION: SWALLOWING SMALL QUANTITIES (ONE TEASPOON) WILL CAUSE NO HARM TO HEALTHY ADULTS. IF LARGER AMOUNTS ARE SWALLOWED, GIVE TWO GLASSES OF WATER TO DRINK AND SEEK MEDICAL ATTENTION.

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5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): NL

FLAMMABLE LIMITS: NONE LEL UEL

EXTINGUISHING MEDIA: ANY FIRE EXTINGUISHING MEDIA

SPECIAL FIRE FIGHTING PROCEDURES: NONE

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

---

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): OPTIBOR REACTS AS A WEAK ACID WHICH MAY CAUSE CORROSION OF BASE METALS. REACTION WITH STRONG REDUCING AGENTS, SUCH AS METAL HYDRIDES OR ALKALI METALS, WILL GENERATE HYDROGEN GAS, WHICH COULD CREATE AN EXPLOSIVE HAZARD.

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: NONE

HAZARDOUS POLYMERIZATION:
MAY OCCUR: WILL NOT OCCUR: X

---

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
GENERAL: OPTIBOR IS A WATER-SOLUBLE WHITE POWDER THAT MAY, AT HIGH CONCENTRATIONS, CAUSE DAMAGE TO TREES OR VEGETATION BY ROOT ABSORPTION. (REFER TO ECOLOGICAL INFORMATION, SECTION 12, FOR SPECIFIC INFORMATION.)
LAND SPILL: VACUUM, SHOVEL OR SWEEP UP OPTIBOR AND PLACE IN CONTAINERS FOR DISPOSAL IN ACCORDANCE WITH APPLICABLE LOCAL REGULATIONS. AVOID CONTAMINATION OF WATER BODIES DURING CLEANUP AND DISPOSAL. NO PERSONAL PROTECTIVE EQUIPMENT IS NEEDED TO CLEANUP LAND SPILLS.
SPILLAGE INTO WATER. WHERE POSSIBLE, REMOVE ANY INTACT CONTAINERS FROM THE WATER. ADVISE LOCAL WATER AUTHORITY THAT NONE OF THE AFFECTED WATER SHOULD BE USED FOR IRRIGATION OR FOR THE ABSTRACTION OF POTABLE WATER UNTIL NATURAL DILUTION RETURNS THE BORON VALUE TO ITS NORMAL ENVIRONMENTAL BACKGROUND LEVEL. OPTIBOR IS A NON-HAZARDOUS WASTE WHEN SPILLED OR DISPOSED OF, AS DEFINED IN THE

****

7. SPILL OR LEAK PROCEDURES (CONT):

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) REGULATIONS (40 CFR 261). (REFER TO REGULATORY INFORMATION, SECTION 15, FOR ADDITIONAL REFERENCES.)

WASTE DISPOSAL METHODS: SMALL QUANTITIES OF OPTIBOR CAN USUALLY BE DISPOSED OF AT LANDFILL SITES. NO SPECIAL DISPOSAL TREATMENT IS REQUIRED, BUT LOCAL AUTHORITIES SHOULD BE CONSULTED ABOUT ANY SPECIFIC LOCAL REQUIREMENTS.

---

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): NIOSH/MSHA APPROVED RESPIRATOR

VENTILATION: LOCAL EXHAUST: X MECHANICAL:
OTHER:

PROTECTIVE GLOVES: NOT REQUIRED

EYE PROTECTION: NOT REQUIRED

OTHER PROTECTIVE EQUIPMENT:

---

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: DRY INDOOR STORAGE IS RECOMMENDED.

OTHER PRECAUTIONS: NONE

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10. OTHER INFORMATION:

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****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 2/28/1994
REVISION: 4

****

1. IDENTIFICATION:

PRODUCT NAME: SUREPREP

PRODUCT NO: 1574

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2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME	CAS #	%
TPC	PROPRIETARY	100.0

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ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

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MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 2/28/1994
REVISION: 2

****

1. IDENTIFICATION:

NAME: **TPC**

CAS #: **PROPRIETARY**

PRODUCT DESCRIPTION: **TRANSPARENT POLYMER COATING**

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2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
ETHYL ALCOHOL 64-17-5	< 90	**1000 PPM**	**1000 PPM**
ETHYL SULFATE 540-82-9	< 2		**NOT DETERMINED**
ISOPROPYL ALCOHOL 67-63-0	< 5		**400 PPM**

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3. PHYSICAL DATA:

BOILING POINT: **172°F**

SPECIFIC GRAVITY (H2O = 1): **0.800 @ 25°C**

VAPOR PRESSURE (MM HG.): **33 @ 25°C**

MELTING POINT: **NA**

VAPOR DENSITY (AIR = 1): **> 1**

EVAPORATION RATE (BUTYL ACETATE=1) **1.5**

SOLUBILITY IN WATER: **SOLUBLE @ 25°C**

APPEARANCE AND ODOR: **CLEAR, COLORLESS LIQUID ALCOHOL**

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NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

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4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? **YES** SKIN? **YES** INGESTION? **YES**

OSHA REGULATED? **NL**

CARCINOGENICITY: NTP? **NL** IARC? **NL**

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: **CONTACT WITH EYES WILL CAUSE IRRITATION.**

SKIN: **PROLONGED CONTACT WITH SKIN MAY CAUSE DRYING.**

INHALATION: **EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL IRRITATION, DIZZINESS, WEAKNESS, NAUSEA, HEADACHE AND A NARCOTIC REACTION.**

INGESTION: **IF SWALLOWED, MAY CAUSE STOMACH CRAMPS, NAUSEA, VOMITING AND/OR DIARRHEA.**

CHRONIC EFFECTS OF EXPOSURE: **NE**

TOXICITY DATA: **NIF**

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: **NIF**

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: **FLUSH WITH COPIOUS AMOUNTS OF WATER. OBTAIN MEDICAL ATTENTION.**

SKIN CONTACT: **WASH WITH SOAP AND WATER AND APPLY SKIN CREAM/ LUBRICATING OINTMENT. OBTAIN MEDICAL ATTENTION.**

INHALATION: **REMOVE TO FRESH AIR. OBTAIN MEDICAL ATTENTION.**

INGESTION: **DRINK WATER AND INDUCE VOMITING. OBTAIN MEDICAL ATTENTION.**

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5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): **65°F (TAG OPEN CUP, ASTM D-1310)**

FLAMMABLE LIMITS: LEL: **NIF** UEL: **NIF**

EXTINGUISHING MEDIA: **USE CARBON DIOXIDE OR DRY CHEMICAL ON SMALL FIRES. USE FOAM (ALCOHOL, POLYMER OR ORDINARY) AND WATER SPRAY FOR LARGE FIRES.**

SPECIAL FIRE FIGHTING PROCEDURES: **USE SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING.**

****

5. FIRE AND EXPLOSION HAZARD DATA (CONT):

UNUSUAL FIRE AND EXPLOSION HAZARDS: **KEEP FIRE-EXPOSED CONTAINERS COOL WITH WATER. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND; THEY MAY THEN BE IGNITED BY FLAMES, SPARKS OR OTHER IGNITION SOURCES AT LOCATIONS DISTANT FROM THE MATERIAL HANDLING POINT.**

==========

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: **X**

CONDITIONS TO AVOID: **EXCESS HEAT, SPARKS, FLAMES**

INCOMPATIBILITY (MATERIALS TO AVOID): **STRONG OXIDIZING MATERIALS, ALDEHYDES, HALOGENS AND CONCENTRATED MINERAL ACIDS.**

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: **THERMAL DECOMPOSITION OR BURNING MAY PRODUCE CARBON MONOXIDE AND/OR CARBON DIOXIDE.**

HAZARDOUS POLYMERIZATION:

MAY OCCUR:
WILL NOT OCCUR: **X**

CONDITIONS TO AVOID: **EXCESS HEAT, SPARKS, FLAMES**

==========

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: **(USE APPROPRIATE SAFETY EQUIPMENT.) USE ABSORBENT MATERIAL TO COLLECT AND CONTAIN FOR DISPOSAL. CONTAIN LARGE SPILLS AND PUMP INTO A SUITABLE TANK OR VESSEL. WASH AREA WITH DETERGENT SOLUTION AND RINSE THOROUGHLY WITH WATER.**

WASTE DISPOSAL METHODS: **ALL LOCAL, STATE AND FEDERAL REGULATIONS CONCERNING HEALTH AND POLLUTION SHOULD BE REVIEWED TO DETERMINE APPROVED DISPOSAL PROCEDURES.**

==========

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): **PROVIDE SELF-CONTAINED BREATHING APPARATUS WHEN HANDLING DRUM QUANTITIES IN AN ENCLOSED ROOM.**

VENTILATION: LOCAL EXHAUST: MECHANICAL: **X**
OTHER:

PROTECTIVE GLOVES: **RUBBER**

EYE PROTECTION: **WHEN WORKING WITH DRUM OR BULK QUANTITIES, CHEMICAL WORKERS' GOGGLES ARE RECOMMENDED. WHEN TRANSFERRING DRUM OR BULK QUANTITIES, A FULL FACE SHIELD IS RECOMMENDED.**

****

8. SPECIAL PROTECTION INFORMATION (CONT)

OTHER PROTECTIVE EQUIPMENT: **CLEAN, BODY-COVERING CLOTHING. FOR DRUM QUANTITIES, RUBBER GLOVES, BOOTS AND APRON DEPENDING UPON THE LIKELY EXPOSURE OR AS REQUIRED BY COMPANY REGULATIONS. WHEN HANDLING OR**

TRANSFERRING LARGE QUANTITIES OF OPEN OR BULK MATERIAL IN AN ENCLOSED ROOM, USE SELF CONTAINED BREATHING APPARATUS. EYE FOUNTAIN AND SAFETY SHOWER SHOULD BE AVAILABLE WHEN HANDLING OR TRANSFERRING LARGE QUANTITIES OF OPEN OR BULK MATERIAL.

==========

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN WELL VENTILATED AREAS AT TEMPERATURE BELOW 120°F AND AWAY FROM IGNITION SOURCE.

OTHER PRECAUTIONS: SINCE EMPTIED CONTAINERS MAY RETAIN PRODUCT RESIDUES (VAPORS, LIQUID AND/OR SOLID) ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET MUST BE OBSERVED.

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10. OTHER INFORMATION: NA

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The information herein is given in good faith but no warranty, expressed or implied, is made.

Helena Laboratories **Working for you**

1530 Lindbergh Dr
PO Box 752
Beaumont, TX 77704-0752
Toll Free 800-231-5663
Local 409-842-3714
FAX (Orders) 409-842-9561
FAX (General) 409-842-6241

PRODUCT NAME: IFE Antisera to Free Kappa Light Chains (1 x 1 mL)

PRODUCT CATALOG NUMBER: 9412 Free Kappa Light chain Antisera

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

Helena Laboratories Working for you

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FAX (General) 409-842-6241

PRODUCT NAME: IFE Antisera to Free Lambda Light Chains (1 x 1 mL)

PRODUCT CATALOG NUMBER: 9413 Free Lambda Light chain Antisera

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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FAX (General) 409-842-6241

Titan Gel IFE IgD
IgD Titan Gel Antisera

PRODUCT NAME: IFE Antisera to IgD (1 x 1 mL)

PRODUCT CATALOG NUMBER: 9409

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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Local 409-842-3714
FAX (Orders) 409-842-9561
FAX (General) 409-842-6241

Titan Gel IFE IgE
IgE Titan Gel Antisera

PRODUCT NAME: IFE Antisera to IgE (1 x 1 mL)

PRODUCT CATALOG NUMBER: 9410

The above product contains no hazardous or carcinogenic chemical in concentrations above the levels (1% and 0.1%, respectively) considered reportable.

However, the products should be handled with the care normally shown when handling laboratory chemicals and may be disposed of by any means considered appropriate for non-hazardous laboratory chemicals.

REFERENCES

1. Occupational Safety and Health, Code of Federal Regulations, 29, Part 1910.1000, 1984.
2. Occupational Safety and Health Regulations (CAL/OSHA), Part 339, (p. 8.22.9), 1984.
3. Sax, N. Irving, Dangerous Properties of Industrial Chemicals, 1984.
4. Massachusetts Substance List.
5. Florida Substance List.

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MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 9/12/2002
REVISION: 8

****

1. IDENTIFICATION:

PRODUCT NAME: **TITAN GEL IMMUNOFIX-PLUS KIT**

PRODUCT NO: **3067**

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2. INGREDIENTS (THE ABOVE KIT CONTAINS THE FOLLOWING ITEMS):

PRODUCT NUMBER	PRODUCT IDENTIFICATION (LABEL NAME)	COMMENTS
551275	TITAN GEL IFE PLUS GEL	NON-HAZARDOUS
551177	TITAN GEL IFE BUFFER	

HAZARDOUS INGREDIENT	CAS #	%	
BARBITAL	57-44-3	85.0	MSDS ATTACHED
THIMEROSAL	54-64-8	1.0	MSDS ATTACHED
SODIUM AZIDE	26628-22-8	5.0	MSDS ATTACHED

551151 ACID BLUE STAIN

HAZARDOUS INGREDIENT	CAS #	%	
ACID BLUE 29	5850-35-1	100.0	MSDS ATTACHED

==========

ATTACHED ARE THE MSDSs FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

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HELENA LABORATORIES
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USA Toll Free 800-231-5663

****

DATE PREPARED: **10/1/1992**
REVISION: **2**

****

1. IDENTIFICATION:

NAME: **ACID BLUE 29**

CAS #: **5850-35-1**

MOLECULAR FORMULA: **C22H16N609S2**

==========

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	 ACGIH TLV
ACID BLUE 29 **5850-35-1**	**100.0**	**NA**	

==========

3. PHYSICAL DATA:

BOILING POINT: **NA**

SPECIFIC GRAVITY (H2O = 1): **NA**

VAPOR PRESSURE (MM HG.): **NA**

MELTING POINT: **NIF**

VAPOR DENSITY (AIR = 1): **NA**

APPEARANCE AND ODOR: **BLACK POWDER**

SOLUBILITY IN WATER: **YES**

==========

NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? **YES** SKIN? **YES** INGESTION? **YES**

CARCINOGENICITY: NTP? **NO** IARC? **NO**

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: **MAY CAUSE IRRITATION.**

SKIN: **MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN. MAY CAUSE IRRITATION.**

INHALATION: **MAY BE HARMFUL IF INHALED. MAY CAUSE IRRITATION.**

INGESTION: **MAY BE HARMFUL IF SWALLOWED. MAY CAUSE IRRITATION.**

CHRONIC EFFECTS OF EXPOSURE: **THE TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.**

TOXICITY DATA: **NO DATA AVAILABLE.**

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: **NIF**

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: **IN CASE OF EYE CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.**

SKIN CONTACT: **IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.**

INHALATION: **IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT, CALL A PHYSICIAN.**

INGESTION: **IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.**

==========

5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): **NA**

FLAMMABLE LIMITS: **NA** LEL **NA** UEL **NA**

EXTINGUISHING MEDIA: **WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.**

****

5. FIRE AND EXPLOSION HAZARD (CONT):

SPECIAL FIRE FIGHTING PROCEDURES: **WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.**

UNUSUAL FIRE AND EXPLOSION HAZARDS: **EMITS TOXIC FUMES UNDER FIRE CONDITIONS.**

==========

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: **X**

INCOMPATIBILITY (MATERIALS TO AVOID): **NIF**

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: **CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES, SULFUR OXIDES.**

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: **X**

==========

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: **WEAR PROTECTIVE EQUIPMENT. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST.**

WASTE DISPOSAL METHODS: **OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.**

==========

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): **APPROPRIATE NIOSH/MSHA-APPROVED**

VENTILATION: LOCAL EXHAUST: MECHANICAL: **REQUIRED**
OTHER:

PROTECTIVE GLOVES: **CHEMICAL RESISTANT**

EYE PROTECTION: **SAFETY GOGGLES**

OTHER PROTECTIVE EQUIPMENT: **OTHER PROTECTIVE CLOTHING**

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: **NIF**

OTHER PRECAUTIONS: **NA**

==========

10. OTHER INFORMATION: NA

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****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
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Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 1/7/1992
REVISION: 2

****

1. IDENTIFICATION:

NAME: BARBITAL

CAS #: 57-44-3

MOLECULAR WEIGHT: 184.22
MOLECULAR FORMULA: C8H12N203

CHEMICAL NAMES: 2,4,6(1H,3H,5H)-PYRIMIDENETRIONE, 5,5-DIETHYL- * 5,5-DIETHYLBARBITURIC ACID

SYNONYMS: DIETHYLBARBITONE * DIETHYLMALONYLUREA * BARBITONE * VERONAL * SEDEVAL

==========

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	ACGIH TLV
BARBITAL 57-44-3	100.0	NA	

==========

3. PHYSICAL DATA:

BOILING POINT: NA

SPECIFIC GRAVITY (H2O = 1): NIF

VAPOR PRESSURE (MM HG.): NA

MELTING POINT: 188-192°C

VAPOR DENSITY (AIR = 1): NA

SOLUBILITY IN WATER: SLIGHTLY SOLUBLE

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NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

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3. **PHYSICAL DATA (CONT):**

APPEARANCE AND ODOR: **WHITE CRYSTALLINE POWDER OR COLORLESS CRYSTALS**

==========

4. **HEALTH HAZARD DATA:**

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? **YES** SKIN? **YES** INGESTION? **YES**

OSHA REGULATED? **NA**

CARCINOGENICITY: NTP? **NA** IARC? **NA**

ACUTE EFFECTS OF OVEREXPOSURE: **EXPOSURE TO THE EYES, SKIN, INHALATION AND INGESTION MAY CAUSE DROWSINESS, LETHARGY, SKIN ERUPTIONS, NAUSEA AND VOMITING. LARGE DOSES CAUSE MARKED DEPRESSION (SOMETIMES PRECEDED BY EXCITATION), COMA AND DEATH.**

CHRONIC EFFECTS OF EXPOSURE: **NIF**

TOXICITY DATA: **ORAL HUMAN TDLO 4 MG/KG-PSYCHOTROPIC EFFECTS; ORAL CAT LDLO 280 MG/KG; ORAL RABBIT LDLO 275 MG/KG; SUBCUTANEOUS RAT LD50 450 MG/KG; SUBCUTANEOUS MOUSE LD50 630 MG/KG; SUBCUTANEOUS RABBIT LDLO 250 MG/KG; INTRAPERITONEAL RAT LDLO 300 MG/KG; INTRAPERITONEAL MOUSE LD50 500 MG/KG; INTRAPERITONEAL RABBIT LDLO 225 MG/KG; INTRAVENOUS RABBIT LDLO 350 MG/KG; INTRAVENOUS CHICKEN LDLO 225 MG/KG; CYTOGENETIC ANALYSIS MOUSE ORAL 33 G/KG; CYTOGENETIC ANALYSIS HAMSTER FIBROBLAST 2 G/L/48H**

MODERATELY TOXIC BY INTRAPERITONEAL AND SUBCUTANEOUS ADMINISTRATION. CAN CAUSE PSYCHOTROPIC EFFECTS IN HUMANS VIA ORAL ADMINISTRATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: **BARBITAL EFFECTS MAY BE INTENSIFIED BY PRESENCE OF OTHER DRUGS.**

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: **IN CASE OF CONTACT, FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.**

SKIN CONTACT: **IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER FOR 15 MINUTES. CALL A PHYSICIAN.**

INHALATION: **KEEP AIR PASSAGES OPEN; PREVENT ASPIRATION. GIVE ARTIFICIAL RESPIRATION OR OXYGEN. CALL A PHYSICIAN.**

****

4. **HEALTH HAZARD DATA** (CONT)

INGESTION: IF CONSCIOUS, INDUCE VOMITING BY IPECAC SYRUP OR TWO GLASSES OF WARM WATER OR DILUTE MILK FOLLOWED BY TICKLING THE BACK OF THE THROAT WITH A TONGUE DEPRESSOR. AFTER VOMITING STOPS, GIVE PATIENT ONE OR TWO TABLESPOONFULS OF ACTIVATED CHARCOAL IN A GLASS OF WATER. CALL A PHYSICIAN.

==========

5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): NA

FLAMMABLE LIMITS: LEL NE UEL NE

EXTINGUISHING MEDIA: FOAM, FOG, WATER SPRAY, CARBON DIOXIDE DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: ISOLATE HAZARD AND EVACUATE CONFINE AREAS. STAY UPWIND; AVOID SMOKE AND FUMES. USE WATER SPRAY TO WET CONTAINERS. IF SMOKE AND FUMES CANNOT BE AVOIDED, WEAR A CHEMICAL-PROOF SUIT WITH HOOD AND BREATHING AIR SUPPLY. FIGHT FIRE FROM MAXIMUM DISTANCE.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NA

==========

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): NA

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: WHEN HEATED TO DECOMPOSITION, TOXIC FUMES SUCH AS NITROGEN OXIDES ARE EMITTED.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

==========

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: SHOVEL LARGE QUANTITIES OF SPILLED MATERIAL INTO DRUMS. SWEEP UP THE SPILL AREA AND SAVE THE MATERIAL FOR RECOVERY. FLUSH THE SPILL AREA WITH DETERGENT AND WATER.

WASTE DISPOSAL METHODS: OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.

==========
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8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): DUST RESPIRATOR

VENTILATION: LOCAL EXHAUST: X MECHANICAL:

OTHER:

PROTECTIVE GLOVES: **YES**

EYE PROTECTION: **YES**

OTHER PROTECTIVE EQUIPMENT: **NA**

==========

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: **AVOID BREATHING DUST. AVOID CONTACT WITH EYE AND SKIN. WASH THOROUGHLY AFTER HANDLING.**

OTHER PRECAUTIONS: **NA**

==========

10. OTHER INFORMATION: NA

****

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****

MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
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Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 5/31/2002
REVISION: 3

****

1. IDENTIFICATION:

NAME: THIMEROSAL

CAS #: 54-64-8

MOLECULAR FORMULA: C9H10HGO2S

SYNONYMS: ((O-CARBOXYPHENYL)THIO)ETHYLMERCURY SODIUM SALT * ELCIDE 75 * ELICIDE * ETHYL(2-MERCAPTOBENZOATO-S) MERCURY SODIUM SALT * O-(ETHYLMERCURITHIO)BENZOIC ACID SODIUM SALT * ETHYLMERCURITHIOSALICYLIC ACID SODIUM SALT * ETHYLMERKURITHIOSALICILAN SODNY (CZECH) * ETHYL (SODIUM O-MERCAPTOBENZOATO)MERCURY * MERCUROTHIOLATE * MERCURY, ETHYL(2-MERCAPTOBENZOATE-S)-, SODIUM SALT & MERFAMIN * MERTHIOLATE * MERTHIOLATE SALT * MERTHIOLATE SODIUM * MERTORGAN * MERZONIN * MERZONIN SODIUM * MERZONIN, SODIUM SALT * SET * SODIUM ETHYLMERCURIC THIOSALICYLATE * SODIUM O-(ETHYLMERCURITHIO)BENZOATE * SODIUM ETHYLMERCURITHIOSALCYLATE * SODIUM MERTHIOLATE * THIMEROSAL & THIMEROSALATE * THIMEROSOL * THIMERSALATE * THIOMEROSAL * THIOMERSAL * THIOMERSALATE *

==========

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL	 ACGIH TLV
THIMEROSAL 54-64-8	100.0	0.1MG(HG)/M3	0.1MG(HG)/M3 SKIN

==========

NA = Not Applicable
NL = Not Listed
NE = Not Established
NIF = No Information Found

****

3. PHYSICAL DATA:

BOILING POINT: **NIF** SPECIFIC GRAVITY (H2O = 1): **NIF**

VAPOR PRESSURE (MM HG.): **NIF** MELTING POINT: **232°C TO 233°C (DEC)**

VAPOR DENSITY (AIR = 1): **NA** SOLUBILITY IN WATER: **SOLUBLE**

APPEARANCE AND ODOR: **WHITE POWDER**

==========

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? **YES** SKIN? **YES** INGESTION? **YES**

OSHA REGULATED? **NA**

CARCINOGENICITY: NTP? **NA** IARC? **NA**

ACUTE EFFECTS OF OVEREXPOSURE: **MAY CAUSE NERVOUS SYSTEM DISTURBANCES.**

EYES: **CAUSES EYE IRRITATION**

SKIN: **MAY BE FATAL IF ABSORBED THROUGH THE SKIN. CAUSES SKIN IRRITATION.**

INHALATION: **MAY BE FATAL IF INHALED. MATERIAL IS IRRITATING TO UPPER RESPIRATORY TRACT.**

INGESTION: **MAY BE FATAL IF SWALLOWED. MATERIAL IS IRRITATING TO MUCOUS MEMBRANES.**

CHRONIC EFFECTS OF EXPOSURE: **LABORATORY EXPERIMENTS HAVE SHOWN MUTAGENIC EFFECTS. TARGET ORGANS: KIDNEYS, CENTRAL NERVOUS SYSTEM.**

TOXICITY DATA:
RTECS NO.:OV8400000
MERCURY, ((O-CARBOXYPHENYL)THIO)ETHYL-,SODIUM SALT

IAL-CHD LDLO 60 MG/KG/4W-I	JOPDAB	104,311,84
ORL-RAT LD50 75 MG/KG	PCOC**	-,1130,66
SCU-RAT LD50 98 MG/KG	CTOXAO	4,185,71
UNR-RAT LD50 40 MG/KG	30ZDA9	-,290,71
ORL-MUS LD50 91 MG/KG	NYKZAU	58,235,62
IPR-MUS LD50 54 MG/KG	NYKZAU	58,235,62
SCU-MUS LD50 66 MG/KG	QJPPAL	12,212,39
IVN-MUS LD50 45 MG/KG	QJPPAL	12,212,39

IRRITATION DATA

EYE-RBT 8 UG MLD	AJOPAA	78,98,74

****

TARGET ORGAN DATA

BEHAVIORAL (ATAXIA)
GASTROINTESTINAL (NAUSEA OR VOMITING)
KIDNEY, URETER, BLADDER (CHANGES IN TUBULES)
EFFECTS ON FERTILITY (POST-IMPLANTATION MORTALITY)
EFFECTS ON FERTILITY (ABORTION)
EFFECTS ON EMBRYO OR FETUS (FETAL DEATH)
TUMORIGENIC EFFECTS (UTERINE TUMORS)
NUTRITIONAL AND GROSS METABOLIC (CHANGES IN: METABOLIC ACIDOSIS)
TUMORIGENIC (NEOPLASTIC BY RTECS CRITERIA)
TUMORIGENIC (TUMORS AT SITE OF APPLICATION)

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NA

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN IMMEDIATELY.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN IMMEDIATELY.

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER, PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN IMMEDIATELY.

==========

5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): > 482°F (> 250°C)

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

****

5. FIRE AND EXPLOSION HAZARD (CONT):

UNUSUAL FIRE AND EXPLOSION HAZARDS: EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

==========

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG BASES. MAY DISCOLOR ON EXPOSURE TO LIGHT.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: TOXIC FUMES OF CARBON MONOXIDE, CARBON DIOXIDE, SULFUR OXIDES, MERCURY/MERCURY OXIDES.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

==========

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETED.

WASTE DISPOSAL METHODS: OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.

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8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): APPROPRIATE NIOSH/MSHA-APPROVED

VENTILATION: LOCAL EXHAUST: MECHANICAL:
OTHER: CHEMICAL FUME HOOD

PROTECTIVE GLOVES: CHEMICAL RESISTANT

EYE PROTECTION: SAFETY GOGGLES

OTHER PROTECTIVE EQUIPMENT: OTHER PROTECTIVE CLOTHING, SAFETY SHOWER AND EYE BATH.

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: DO NOT BREATH DUST. AVOID CONTACT WITH EYES, SKIN AND CLOTHING, AVOID PROLONGED OR REPEATED EXPOSURE. WASH THOROUGHLY AFTER HANDLING. KEEP TIGHTLY CLOSED. LIGHT SENSITIVE. STORE IN A COOL DRY PLACE.

OTHER PRECAUTIONS: WASH CONTAMINATED CLOTHING BEFORE USE. 011572

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10. OTHER INFORMATION:
POSSIBLE ALLERGIC REACTION TO DUST IF INHALED, INGESTED OR IN CONTACT WITH SKIN. HYPERSENSITIVITY REACTIONS MANIFESTED BY ERYTHEMA, PAPULAR OR VESICULAR ERUPTIONS OCCUR OCCASIONALLY. ALLERGIC CONJUNCTIVITIS HAS BEEN REPORTED. THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

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The information herein is given in good faith but no warranty, expressed or implied, is made.

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MATERIAL SAFETY DATA SHEET

HELENA LABORATORIES
1530 Lindbergh Dr./P.O. Box 752
Beaumont, TX 77704-0752
USA Toll Free 800-231-5663

****

DATE PREPARED: 8/23/2002
REVISION: 4

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1. IDENTIFICATION:

PRODUCT NAME: **SODIUM AZIDE**
CAS #: **26628-22-8**

MOLECULAR WEIGHT: **65.01**
MOLECULAR FORMULA: **NA-N3**

CHEMICAL FAMILY: **AZIDE**
AZIDE, SODIUM * AZOTURE DE SODIUM (FRENCH) * AZYDEK SODU (POLISH) * KAZOE * NATRIUMAZID (GERMAN) * NATRIUMMAZIDE (DUTCH) * NCI-C06462 * NEMAZYD * NSC 3072 * RCRA WASTE NUMBER P105 * SMITE * SODIUM AZIDE (ACGIH:DOT) * SODIUM, AZOTURE DE (FRENCH) * SODIUM, AZOTURO DI (ITALIAN) * U-3886 * UN1687 (DOT) *

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS OSHA PEL ACGIH TLV
SODIUM AZIDE 26628-22-8	100.0	**0.1 PPM (HN3) CEILING (SKIN) 0.3 MG/M3 (NAN3) CEILING (SKIN)**

3. PHYSICAL DATA:

BOILING POINT: **NA**

SPECIFIC GRAVITY (H_2O = 1): **1.846**

VAPOR PRESSURE (MM HG.): **NA**

MELTING POINT: **> 527°F (> 320°C) (DECOMPOSES)**

VAPOR DENSITY (AIR = 1): **NA**

SOLUBILITY IN WATER: **SOLUBLE**

APPEARANCE AND ODOR: **WHITE, CRYSTALLINE POWDER**

NA = Not Applicable **NE = Not Established**
NL = Not Listed **NIF = No Information Found**

****

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:
INHALATION? **YES** SKIN? **YES** INGESTION? **YES**

OSHA REGULATED? **NA**

CARCINOGENICITY: NTP? **NA** IARC? **NA**

ACUTE EFFECT OF OVEREXPOSURE:

EYES: **IRRITANT.**

SKIN: **IRRITANT/HIGHLY TOXIC.**

INHALATION: **IRRITANT/HIGHLY TOXIC**

INGESTION: **HIGHLY TOXIC**

CHRONIC EFFECTS OF EXPOSURE:

MAY ALTER GENETIC MATERIAL
TARGET ORGAN(S):
NERVES, HEART
BRAIN
ADDITIONAL INFORMATION
LABORATORY EXPERIMENTS IN ANIMALS HAVE SHOWN SODIUM AZIDE TO PRODUCE A PROFOUND HYPOTENSIVE EFFECT, DEMYELINATION OF MYELINATED NERVE FIBERS IN THE CENTRAL NERVOUS SYSTEM, TESTICULAR DAMAGE, BLINDNESS, ATTACKS OF RIGIDITY, HEPATIC AND CEREBRAL EFFECTS.

TOXICITY DATA:
RTECS#:VY8050000

ORL-WMN LDLO:786 MG/KG	ORL-MUS LD50:27 MG/KG
ORL-MAN LDLO:29 MG/KG	IPR-MUS LD50:28 MG/KG
ORL-MAN LDLO:129 MG/KG	SCU-MUS LD50:23060 UG/KG
ORL-MAN LDLO:14 MG/KG	IVN-MUS LD50:19 MG/KG
ORL-MAN LDLO:143 MG/KG	UNR-MUS LD50:27 MG/KG
ORL-RAT LD50:27 MG/KG	SKN-RBT LD50:20 MG/KG
SCU-RAT LD50:45100 UG/KG	ORL-BWD LD50:23700 UG/KG
ITR-RAT LD50:47500 UG/KG	

TARGET ORGAN DATA
BRAIN AND COVERINGS (INCREASED INTRACRANIAL PRESSURE)
PERIPHERAL NERVE AND SENSATION (SPASTIC PARALYSIS WITH/WITHOUT SENSORY
SENSE ORGANS AND SPECIAL SENSES (MYDRIASIS)
BEHAVIORAL (GENERAL ANESTHETIC)
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
BEHAVIORAL (COMA)
BEHAVIORAL (HEADACHE)

****

4. HEALTH HAZARD DATA: (CONT)

BEHAVIORAL (IRRITABILITY)
CARDIAC (ARRYTHMIAS)
CARDIAC (PULSE RATE DECREASED WITH FALL IN BP)
CARDIAC (CHANGE IN FORCE OF CONTRACTION)
CARDIAC (OTHER CHANGES)
VASCULAR (BP LOWERING NOT CHARACTERIZED IN AUTONOMIC SECTION)
LUNGS, THORAX OR RESPIRATION (ACUTE PULMONARY EDEMA)
LUNGS, THORAX OR RESPIRATION (DYSPNAE)
LUNGS, THORAX OR RESPIRATION (RESPIRATORY STIMULATION)
LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
GASTROINTESTINAL (HYPERMOTILITY, DIARRHEA)
KIDNEY, URETER, BLADDER (OTHER CHANGES)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NA

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE OCCASIONALLY LIFTING UPPER AND LOWER LIDS UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT: REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

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5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): NA

FLAMMABLE LIMITS: LEL NA UEL NA

EXTINGUISHING MEDIA DO NOT USE WATER. DRY CHEMICAL POWDER.

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

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5. **FIRE AND EXPLOSION HAZARD DATA (CONT)**

UNUSUAL FIRE AND EXPLOSION HAZARDS: **CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS. EMITS TOXIC FUMES UNDER FIRE CONDITIONS.**

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6. **REACTIVITY DATA:**

STABILITY: UNSTABLE: STABLE: **X**

INCOMPATIBILITY (MATERIALS TO AVOID): **ACID CHLORIDES; HALOGENATED SOLVENTS; AVOID CONTACT WITH METALS; AVOID CONTACT WITH ACID; EXPLODES WHEN HEATED.**
AZIDE REACTS WITH MANY HEAVY METALS SUCH AS LEAD, COPPER, MERCURY, SILVER, GOLD TO FORM EXPLOSIVE COMPOUNDS. COPPER AND LEAD AZIDES ARE MORE SENSITIVE THAN NITROGLYCERINE. AZIDE REACTS WITH METAL HALIDES TO GIVE A RANGE OF METAL AZIDE HALIDES, MANY OF WHICH ARE EXPLOSIVE. INCOMPATIBLE WITH CHROMYL CHLORIDE, HYDRAZINE, BROMINE, CARBON DISULFIDE, DIMETHYL SULFATE, DIBROMOMALONITRILE. AN EXPLOSION OCCURRED WHEN A MIXTURE OF SODIUM AZIDE, METHYLENE CHLORIDE, DIMETHYL SULFOXIDE, AND SULFURIC ACID WERE BEING CONCENTRATED ON A ROTARY EVAPORATOR.

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: **NITROGEN OXIDES**

HAZARDOUS POLYMERIZATION:
MAY OCCUR: WILL NOT OCCUR: **X**

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7. **SPILL OR LEAK PROCEDURES:**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: **EVACUATE AREA. WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.**

WASTE DISPOSAL METHODS: **OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.**

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8. **SPECIAL PROTECTION INFORMATION:**

RESPIRATORY PROTECTION (SPECIFY TYPE):

VENTILATION: LOCAL EXHAUST: MECHANICAL: **X**
OTHER:

PROTECTIVE GLOVES: **CHEMICAL-RESISTANT GLOVES.**

EYE PROTECTION: **SPLASH-PROOF OR DUST RESISTANT SAFETY GOGGLES AND FACESHIELD.**

OTHER PROTECTIVE EQUIPMENT: **SAFETY SHOWER AND EYE BATH**

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9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: **STORE AWAY FROM INCOMPATIBLE SUBSTANCES.**

OTHER PRECAUTIONS: **FORMS HAZARDOUS VAPORS WHEN CONTACTED WITH ACIDS. THRESHOLD PLANNING QUANTITY IS SARA REGULATED.**

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10. OTHER INFORMATION: **EVEN DILUTE SOLUTIONS WHEN EXPOSED TO ACIDS MAY FORM HAZARDOUS VAPORS.**

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The information herein is given in good faith but no warranty, expressed or implied, is made.

Microgenics
Products

011579

Material Safety Data Sheet

Product: DRI® Ecstasy Enzyme Immunoassay

Catalog #: 100075, 100076

Description:

Antibody/Substrate Reagent	Liquid
Enzyme Conjugate Reagent	Liquid

Chemical Hazard/hazardous Ingredients: N/A

Fire, Explosion and Reactivity Data:

Flashpoint - Not determined.
Extinguishing media - Use extinguishing media appropriate for surrounding fire.
Unusual fire and explosion hazard - None
Reactivity - Stable. Hazardous polymerization will not occur.
Incompatibility - Avoid copper or lead plumbing. May form potentially explosive metal azides.

Health Hazards: HARMFUL IF SWALLOWED. The toxicological properties of this product has not been determined.

First Aid:

Ingestion - wash out mouth with water, provided the person is conscious. Call physician.
Inhalation - remove to fresh air. If breathing becomes difficult, give oxygen and call physician.
Skin contact - remove contaminated clothing and flush the contacted area with water and wash thoroughly with soap and water. If irritation persists call physician.
Eye contact - flush with copious amounts of water for 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call physician.

Spill and Leak Procedure: Wear appropriate protective equipment. Sweep up or absorb material and place in a closed container. Ventilate and wash spill area. If material is disposed of using plumbing always flush with a large volume of water to prevent azide build-up. Disposal should be made in accordance with existing disposal practices employed for waste at your institution. Observe all federal, state and local laws.

Special Protection Information: Provide adequate general mechanical and local exhaust ventilation. Protect eyes and skin with safety glasses and gloves. Avoid contact with eyes and skin. Do not breathe solution vapor.

Special Storage Precautions:

Avoid high temperatures (200 °F).
Do not store with acids.

Doc: 10006264-0

Date: 2001 07

microgenics

Microgenics Corporation
46360 Fremont Blvd., Fremont, CA 94538 USA
Tel: (510) 979-5000 ○ Fax: (510) 979-5498
Technical/Customer Service (800) 232-3342

Material Safety Data Sheet

Product: DRI® Ecstasy Urine Calibrators and Controls

Catalog #: 0032, 1664, 1388, 100078, 100079, 100080, 100081, 100082

Description:

Negative Calibrator	Liquid
Ecstasy 200 ng/mL Calibrator	Liquid
Ecstasy 500 ng/mL Calibrator	Liquid
Ecstasy 750 ng/mL Calibrator	Liquid
Ecstasy 1000 ng/mL Calibrator	Liquid
Ecstasy Negative Control	Liquid
Ecstasy Negative Control	Liquid

Chemical Hazard/hazardous Ingredients: Human urine.

Fire, Explosion and Reactivity Data:

Flashpoint: Not determined.
Extinguishing media: Use extinguishing media appropriate for surrounding fire.
Unusual fire and explosion hazard: None
Reactivity: Stable. Hazardous polymerization will not occur.
Incompatibility: Avoid copper or lead plumbing. May form potentially explosive metal azides.

Health Hazards: Although the human urine from which this product is derived was found negative for Hepatitis B surface antigen and antibody to HTLV II/LAV by approved test method, the product should be HANDLED AS IF IT IS POTENTIALLY INFECTIOUS.

HARMFUL IF SWALLOWED. The toxicological properties of this product has not been determined.

First Aid:

Ingestion - wash out mouth with water, provided the person is conscious. Call physician.
Inhalation - remove to fresh air. If breathing becomes difficult, give oxygen and call physician.
Skin contact - remove contaminated clothing and flush the contacted area with water and wash thoroughly with soap and water. If irritation persists call physician.
Eye contact - flush with copious amounts of water for 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call physician.

Spill and Leak Procedure: Wear appropriate protective equipment. Sweep up or absorb material and place in a closed container. Ventilate and wash spill area. If material is disposed of using plumbing always flush with a large volume of water to prevent azide build-up. Disposal should be made in accordance with existing disposal practices employed for waste at your institution. Observe all federal, state and local laws.

Special Protection Information: Provide adequate general mechanical and local exhaust ventilation. Protect eyes and skin with safety glasses and gloves. Avoid contact with eyes and skin. Do not breathe solution vapor.

Special Storage Precautions:

Avoid high temperatures (200 °F)
Do not store with acids

Doc: 10006265-0

Date: 2001 07

microgenics

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011581

Material Safety Data Sheet

Product: DRI® Ecstasy Urine Calibrators and Controls

Catalog #: 0032, 1664, 1388, 100078, 100079, 100080, 100081, 100082

Description:

Negative Calibrator	Liquid
Ecstasy 200 ng/mL Calibrator	Liquid
Ecstasy 500 ng/mL Calibrator	Liquid
Ecstasy 750 ng/mL Calibrator	Liquid
Ecstasy 1000 ng/mL Calibrator	Liquid
Ecstasy Negative Control	Liquid
Ecstasy Negative Control	Liquid

Chemical Hazard/hazardous Ingredients: Human urine.

Fire, Explosion and Reactivity Data:

Flashpoint: Not determined.
Extinguishing media: Use extinguishing media appropriate for surrounding fire.
Unusual fire and explosion hazard: None
Reactivity: Stable. Hazardous polymerization will not occur.
Incompatibility: Avoid copper or lead plumbing. May form potentially explosive metal azides.

Health Hazards: Although the human urine from which this product is derived was found negative for Hepatitis B surface antigen and antibody to HTLV II/LAV by approved test method, the product should be HANDLED AS IF IT IS POTENTIALLY INFECTIOUS.

HARMFUL IF SWALLOWED. The toxicological properties of this product has not been determined.

First Aid:

Ingestion - wash out mouth with water, provided the person is conscious. Call physician.
Inhalation - remove to fresh air. If breathing becomes difficult, give oxygen and call physician.
Skin contact - remove contaminated clothing and flush the contacted area with water and wash thoroughly with soap and water. If irritation persists call physician.
Eye contact - flush with copious amounts of water for 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call physician.

Spill and Leak Procedure: Wear appropriate protective equipment. Sweep up or absorb material and place in a closed container. Ventilate and wash spill area. If material is disposed of using plumbing always flush with a large volume of water to prevent azide build-up. Disposal should be made in accordance with existing disposal practices employed for waste at your institution. Observe all federal, state and local laws.

Special Protection Information: Provide adequate general mechanical and local exhaust ventilation. Protect eyes and skin with safety glasses and gloves. Avoid contact with eyes and skin. Do not breathe solution vapor.

Special Storage Precautions:

Avoid high temperatures (200 °F)
Do not store with acids

Doc: 10006265-0

Date: 2001 07

microgenics

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011583

MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
100 Bureau Drive, Stop 2321
Gaithersburg, Maryland 20899-2321

MSDS Coordinator: Carmen S. Davis
Phone: (301) 975-6776
ChemTrec: 1-800-424-9300

FAX: (301) 926-4751
E-mail: SRMMSDS@nist.gov

SRM Number: 3109a
MSDS Number: 3109a
SRM Name: Calcium Standard Solution
Date of Issue: 16 July 2001

SECTION I. MATERIAL IDENTIFICATION

Material Name: Calcium Standard Solution

Description: SRM 3109a is a single element solution prepared gravimetrically to contain a nominal 10 mg/g of calcium with a nitric acid volume fraction of 10 %.

Other Designations: **Calcium in Nitric Acid** (aqua fortis; hydrogen nitrate; azotic acid; engraver's acid); **Calcium Nitrate*** (nitric acid, calcium salt; calcium dinitrate; saltpeter; lime nitrate; nitrocalcite) in **Standard Solution**

Name	Chemical Formula	CAS Registry Number
Nitric Acid	HNO_3	7697-37-2
Calcium Nitrate	$Ca(NO_3)_2$	10124-37-5
Calcium	Ca	7440-70-2

DOT Classification: Nitric Acid, Solution, UN2031

Manufacturer/Supplier: Available from a number of suppliers

* The addition of calcium to nitric acid, along with other intermediate chemical reactions, forms calcium nitrate which will precipitate upon evaporation or drying of the solution.

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Components	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Nitric Acid	10	ACGIH TLV-TWA: 2 mg/kg or 5 mg/m^3
		OSHA TLV-TWA: 2 mg/kg or 5 mg/m^3
		Human, Oral: LD_{LO}: 430 mg/kg
Calcium Nitrate	4.1	No TLV-TWA established
		Rat, Oral: LD_{50}: 302 mg/kg
Calcium	1	No TLV-TWA established

http://ois.nist.gov/srmcatalog/msds/view_msds2gif.cfm?msds=3109a

011584

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Nitric Acid	Calcium Nitrate	Calcium
Appearance and Odor: a white to slightly yellow liquid that darkens to a brownish color upon aging and exposure to light; pungent odor	**Appearance and Odor:** colorless to gray hygroscopic crystal with no odor	**Appearance and Odor:** white lustrous solid
Relative Molecular Mass: 63.02	**Relative Molecular Mass:** 164.09	**Relative Atomic Mass:** 40.08
Boiling Point: 83 °C	**Boiling Point:** not applicable	**Boiling Point:** 1484 °C
Melting Point: not available	**Melting Point:** 561 °C	**Melting Point:** 837 °C to 841 °C
Density: 1.05 (10 % nitric acid)	**Density (@ 18 °C):** 2.5	**Density:** 1.54
Water Solubility: soluble	**Water Solubility (@ 18 °C):** 121 %	**Water Solubility:** reacts
Solvent Solubility: soluble in ether; decomposes in alcohol	**Solvent Solubility:** soluble in ethanol, methanol, liquid ammonia, and acetone	**Solvent Solubility:** soluble in liquid ammonia

NOTE: The physical and chemical data provided are for the pure components. Physical and chemical data for this calcium/nitric acid solution do not exist. The actual behavior of the solution may differ from the individual components.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not Applicable **Method Used:** Not Applicable **Autoignition Temperature:** Not Applicable

Flammability Limits in Air (Volume %): **UPPER:** Not Applicable
LOWER: Not Applicable

Unusual Fire and Explosion Hazards: Although nitric acid does not burn, it is a powerful oxidizing agent that can react with combustible materials to cause fires. Calcium nitrate is an oxidizer and can explode on contact with combustible materials. Calcium is a negligible fire hazard; however, dust/air mixtures may ignite or explode.

Extinguishing Media: Use extinguishing media that is appropriate to the surrounding fire. Use a water spray to dilute nitric acid and to absorb liberated oxides of nitrogen.

Special Fire Procedures: Fire fighters should wear a self-contained breathing apparatus (SCBA) with a full face piece in the pressure demand or positive mode and other protective clothing.

SECTION V. REACTIVITY DATA

Stability: __X__ Stable ____ Unstable

Conditions to Avoid: Avoid contact with moisture and incompatible materials.

Incompatibility (Materials to Avoid): Keep nitric acid away from organic materials, plastics, rubber, and some forms of coatings. Nitric acid is incompatible with chlorine and metal ferrocyanide. Calcium nitrate is incompatible with combustible materials, reducing agents, acids, and metal salts. Calcium is incompatible with combustible materials, acids, oxidizing materials, metals, and halogens.

See Section IV: *Unusual Fire and Explosion Hazards*

Hazardous Decomposition or Byproducts: Hazardous decomposition of nitric acid and/or calcium nitrate can produce various nitrogen oxides, including nitric oxide (NO), nitrogen dioxide (NO_2), nitrous oxide (N_2O), as well as nitric acid mist or vapor. Thermal decomposition of calcium may release toxic and/or hazardous gases.

Hazardous Polymerization: ____ Will Occur __X__ **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: __X__ **Inhalation** __X__ **Skin** __X__ **Ingestion**

Health Hazards (Acute and Chronic): Nitric Acid: Nitric acid may be fatal if inhaled, swallowed, or absorbed through the skin. This material causes burns and is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may be fatal as a result of spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Calcium Nitrate: Inhalation of high concentrations of calcium nitrate may cause irritation, coughing, sore throat, and shortness of breath. Skin and/or eye contact may cause irritation with redness and pain. Repeated or prolonged skin contact may cause dermatitis; repeated or prolonged eye contact may cause conjunctivitis. Ingestion may cause abdominal discomfort. Repeated or prolonged exposure to nitrates may cause anemia, nephritis, and possible methemoglobinemia.

Calcium: Calcium may react with water to form calcium hydroxide, an alkaline corrosive. Alkaline corrosive materials may cause irritation of the respiratory tract with coughing, choking, pain, and possibly burns of the mucous membranes. Repeated or prolonged exposure may cause inflammatory and ulcerative changes in the mouth and possibly bronchial and gastrointestinal disturbances.

Skin and/or eye contact with this material as an alkaline corrosive may cause severe pain, burns, and possibly brownish stains. The corroded areas may be soft, gelatinous and necrotic; the tissue destruction may be deep. Repeated or prolonged skin contact may cause dermatitis. Eye contact may result in edema, and destruction of the epithelium. Repeated or prolonged eye contact may cause conjunctivitis.

Ingestion of calcium (hydroxide) may cause immediate pain, circumoral burns, and corrosion of the mucous membranes which at first turn white and soapy and then become brown, edematous, and ulcerated. There may be profuse salivation and difficulty or inability to swallow or speak. Death may result within a short time from asphyxia, circulatory collapse, or aspiration from even minute amounts.

Medical Conditions Generally Aggravated by Exposure: Nitric Acid: eye disorders, skin disorders, respiratory disorders, and allergies

Listed as a Carcinogen/Potential Carcinogen:

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens	____	X
In the International Agency for Research on Cancer (IARC) Monographs	____	X
By the Occupational Safety and Health Administration (OSHA)	____	X

EMERGENCY AND FIRST AID PROCEDURES:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Obtain medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance.

Inhalation: If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Obtain medical assistance if necessary.

Ingestion: If ingestion occurs, wash out mouth with water. **DO NOT** induce vomiting. If the exposed person is responsive, give one or two glasses of milk or water to drink. Obtain medical assistance immediately.

> **NOTE (Nitric Acid):** Wash affected skin areas with 5 % solution of sodium bicarbonate ($NaHCO_3$). If ingested, the risk versus the benefit of the passage of a naso-gastric tube is debatable. Activated charcoal is of no value. **DO NOT** give the exposed person bicarbonate to neutralize the material.

TARGET ORGAN(S) OF ATTACK: **Nitric Acid:** skin, teeth, eyes, and upper respiratory tract
Calcium and Calcium Nitrate: the skin and digestive tract

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material Is Released or Spilled: Notify safety personnel of spills. Surfaces contaminated with spills should be covered with soda ash or sodium bicarbonate to neutralize the acid. Place the neutralized material into containers suitable for eventual disposal, reclamation, or destruction.

Waste Disposal: Follow all federal, state, and local laws governing disposal.

Handling and Storage: Provide general and local explosion proof ventilation systems to maintain airborne concentrations below the TLV. Provide approved respiratory apparatus for non-routine or emergency use. Use an approved filter and vapor respirator when the vapor or mist concentrations are high. Wear gloves and chemical safety glasses where contact with the liquid or high vapor concentrations may occur. An eye wash station and washing facilities should be readily available near handling and use areas.

> **NOTE:** Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

Store this material in its original bottle at room temperature.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources: MDL Information Systems, Inc., MSDS *Nitric Acid*, 22 March 2001.
MDL Information Systems, Inc., MSDS *Calcium*, 22 March 2001.
MDL Information Systems, Inc., MSDS *Calcium Nitrate*, 22 March 2001.
The Merck Index, 11th Ed., 1989.
Sigma-Aldrich Library of Chemical Safety Date, Ed. II, 1988.

Disclaimer: Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data on the MSDS. The certified value for this material is given in the NIST Certificate of Analysis.

MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
Bldg. 202 Rm. 211
Gaithersburg, Maryland 20899

SRM Number: 3114
MSDS Number: 3114
SRM Name: Copper Standard Solution
Date of Issue: May 1990
Date of Revision: February 22, 1999

MSDS Coordinator: Joylene W.L. Thomas
Phone: (301) 975-6776
ChemTrec: 1-800-424-9300

FAX: (301) 926-4751
E-mail: SRMMSDS@nist.gov

SECTION I. MATERIAL IDENTIFICATION

Material Name: Copper Standard Solution

Description: SRM 3114 is a single element solution prepared gravimetrically to contain a nominal 10 mg/mL (or 10 mg/g) of copper with a nitric acid volume fraction of 10 %.

Other Designations: **Copper in Nitric Acid** (aqua fortis; hydrogen nitrate; azotic acid; engravers acid). **Copper Nitrate*** (cupric nitrate; copper dinitrate; copper (II) nitrate; nitric acid, copper (2+) salt) in **Spectrometric Standard Solution**.

Name	Chemical Formulas	CAS Registration Numbers
Nitric Acid	HNO_3	7697-37-2
Copper Nitrate	$Cu(NO_3)_2$	3251-23-8
Copper	Cu	7440-50-8

DOT Classification: Nitric Acid Solution, ID#: UN2031

Manufacturer/Supplier: Available from a number of suppliers

*The addition of copper to nitric acid, along with other intermediate chemical reactions, forms copper nitrate which will precipitate upon evaporation or drying of the solution.

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Components	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Nitric Acid	10	ACGIH TLV-TWA: 2 mg/kg or 5 mg/m^3
		OSHA TLV-TWA: 2 mg/m^3 or 5 mg/m^3
		Human, Oral: LD_{LO}: 430 mg/kg
Copper Nitrate	3.0	No TLV-TWA established for copper compounds.
		Rat, Oral: LD_{50}: 794 mg/kg
Copper	1	ACGIH TLV-TWA (fumes): 0.2 mg/m^3
		OSHA TLV-TWA (fumes): 0.1 mg/m^3
		Mouse, Intraperitoneal: LD_{50}: 3.5 mg/kg
		Human, Oral: TD_{LO}: 120 μg/kg

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Nitric Acid	Copper Nitrate	Copper
Appearance and Odor: A white to slightly yellow liquid that darkens to a brownish color upon aging and exposure to light; material has an irritating odor.	**Appearance and Odor:** A yellow to blue deliquescent crystal; odorless.	**Appearance and Odor:** A red lustrous crystal; odorless.
Relative Molecular Mass: 63.02	**Relative Molecular Mass:** 187.56	**Relative Atomic Mass:** 63.5
Density: 1.0543 (10 % nitric acid)	**Density:** 2.32	**Density:** 8.92
Solubility in Water: Soluble	**Solubility in Water:** Soluble	**Solubility in Water:** Insoluble
Solvent Solubility: Decomposes in alcohol.	**Solvent Solubility:** Soluble in ethyl acetate, dioxane, alcohol, and ether.	**Solvent Solubility:** Soluble in nitric acid, hot concentrated sulfuric acid, and hot hydrogen bromide; slightly soluble in hydrochloric acid and ammonium hydroxide.

Note: The physical and chemical data provided are for pure compounds. Physical and chemical data for this copper/nitric acid solution do not exist. The actual behavior of this solution may differ from the individual components.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A **Method Used:** N/A **Autoignition Temperature:** N/A

Flammability Limits in Air (Volume %): **UPPER:** N/A
LOWER: N/A

Unusual Fire and Explosion Hazards: Although nitric acid does not burn, it is a powerful oxidizing agent that can react with combustible materials to cause fires. Copper nitrate is a negligible fire hazard, but may ignite or explode when exposed to combustible materials.

Extinguishing Media: Use extinguishing media that is appropriate to the surrounding fire. Use a water spray to dilute nitric acid and to absorb liberated oxides of nitrogen.

Special Fire Procedures: Fire fighters should wear a self-contained breathing apparatus (SCBA) with a full face piece in the pressure demand or positive mode and other protective clothing.

SECTION V. REACTIVITY DATA

Stability: __X__ **Stable** _____ **Unstable**

Conditions to Avoid: Avoid contact with combustible and other incompatible materials.

Incompatibility (Materials to Avoid): Keep nitric acid away from organic materials, plastics, rubber, and some forms of coatings. Nitric acid is incompatible with chlorine and metal ferrocyanide. Avoid metals, metal oxides, hydroxides, amines, carbonates, and other alkaline materials, cyanides, sulfides, sulfates, and formaldehyde. Copper nitrate is incompatible with reducing agents, metals, metal salts, and acids. Copper is incompatible with acids, oxidizing materials, metal salts, bases, halocarbons, halogens, peroxides, reducing agents, and metal oxides.

See Section IV: *Unusual Fire and Explosion Hazards.*

Hazardous Decomposition or Byproducts: Hazardous decomposition of nitric acid and/or copper nitrate can produce various nitrogen oxides, including nitric oxide (NO), nitrogen dioxide (NO_2), nitrous oxide (N_2O), as well as nitric acid mist or vapor.

Hazardous Polymerization: _____ **Will Occur** __X__ **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: __X__ **Inhalation** __X__ **Skin** __X__ **Ingestion**

Health Hazards (Acute and Chronic): Nitric Acid: Nitric acid may be fatal if inhaled, swallowed, or absorbed through skin. This material causes burns and is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Copper and Copper Nitrate: Copper and copper nitrate may be harmful by inhalation or ingestion. These materials may cause irritation to skin, eyes, mucous membranes, and upper respiratory tract. Copper nitrate may cause burns. Short term exposure to copper dust or fumes may cause "metal fume fever," which is a transient condition characterized by fever and chills. Chronic or long term exposure may result in lung x-ray changes not associated with harmful effects.

Signs and Symptoms of Exposure: Irritation, difficulty breathing, burning sensation, and yellow skin discoloration can result from contact with nitric acid. Stomach pains, vomiting, diarrhea, fever, and chills are connected with exposure to copper and related compounds.

Medical Conditions Generally Aggravated by Exposure: Eye disorders, skin disorders, respiratory disorders, and allergies. Copper and copper nitrate also affect Wilson's disease and disorders of the kidneys, liver, and blood system.

Listed as a Carcinogen/Potential Carcinogen:

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens		X
In the International Agency for Research on Cancer (IARC) Monographs		X
By the Occupational Safety and Health Administration (OSHA)		X

EMERGENCY AND FIRST AID PROCEDURES:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Obtain medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance.

Inhalation: If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Obtain medical assistance if necessary.

Ingestion: If ingestion occurs, wash out mouth with water. **DO NOT** induce vomiting. Obtain medical assistance immediately.

Note (Nitric Acid): Wash affected skin areas with 5 % solution of sodium bicarbonate ($NaHCO_3$). If ingested, the risk versus the benefit of the passage of a naso-gastric tube is debatable. Activated charcoal is of no value. DO NOT give the exposed person bicarbonate to neutralize the material.

TARGET ORGAN(S) OF ATTACK: **Nitric Acid:** The skin, teeth, eyes, and upper respiratory tract
Copper and Copper Nitrate: The skin, eyes, upper respiratory tract, and mucous membranes

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: Notify safety personnel of spills. Surfaces contaminated with spills should be covered with soda ash or sodium bicarbonate to neutralize the acid. Place the neutralized material into containers suitable for eventual disposal, reclamation, or destruction.

Waste Disposal: Follow all federal, state, and local laws governing disposal.

Handling and Storage: Provide general and local explosion proof ventilation systems to maintain airborne concentrations below the TLV. Provide approved respiratory apparatus for nonroutine or emergency use. Use an approved filter and vapor respirator when the vapor or mist concentrations are high. Wear gloves and chemical safety glasses where contact with the liquid or high vapor concentrations may occur. An eye wash station and washing facilities should be readily available near handling and use areas. Wash exposed skin areas several times a day with soap and warm water.

Store under normal laboratory conditions in an upright position.

Note: Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources:

MDL Information Systems, Inc., MSDS *Copper*, September 10, 1998.
MDL Information Systems, Inc., MSDS *Cupric Nitrate*, September 10, 1998.
MDL Information Systems, Inc., MSDS *Nitric Acid*, March 12, 1998.
Merck Index, 11th ed., 1989.
The Sigma Aldrich Library of Chemical Safety Data, Ed. II, 1988.

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MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
Bldg. 202 Rm. 211
Gaithersburg, Maryland 20899

SRM Number: 3129a
MSDS Number: 3129a
SRM Name: Lithium Standard Solution
Date of Issue: 13 September 2000

MSDS Coordinator: Joylene W.L. Thomas
Phone: (301) 975-6776
ChemTrec: 1-800-424-9300

FAX: (301) 926-4751
e-mail: SRMMSDS@nist.gov

SECTION I. MATERIAL IDENTIFICATION

Material Name: Lithium Standard Solution

Description: SRM 3129a is a single element solution prepared gravimetrically to contain a nominal 10 mg/g of lithium with a nitric acid volume fraction of 10 %.

Other Designations: **Lithium** in **Nitric Acid** (aqua fortis; hydrogen nitrate; azotic acid; engravers acid); **Lithium Nitrate*** (lithium salt) in **Standard Solution**

Name	Chemical Formula	CAS Registry Number
Nitric Acid	HNO_3	7697-37-2
Lithium Nitrate	$LiNO_3$	7790-69-4
Lithium	Li	7439-93-2

DOT Classification: Nitric Acid Solution, UN2031

Manufacturer/Supplier: Available from a number of suppliers

* The addition of lithium to nitric acid, along with other intermediate chemical reactions, forms lithium nitrate which will precipitate upon evaporation or drying of the solution.

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Components	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Nitric Acid	10	ACGIH TLV-TWA: 2 mg/kg or 5 mg/m^3
		ACGIH-TLV-STEL: 4 mg/kg or 10 mg/m^3
		Mouse, Inhalation: LC_{50}: 67 mg/kg/4 hrs
		Human, Oral: LD_{LO}: 430 mg/kg
Lithium Nitrate	9.93	No occupational exposure limits established
Lithium	1.0	No occupational exposure limits established
		Rabbit, Subcutaneous: LD_{LO}: 4000 mg/kg
		Mouse, Intraperitoneal: LD_{50}: 1 g/kg
		Dog, Intravenous: LD_{50}: 325 g/kg

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Nitric Acid	Lithium Nitrate	Lithium
Appearance and Odor: a white to slightly yellow liquid that darkens to a brownish color upon aging and exposure to light; characteristic choking, nitrogen dioxide odor	**Appearance and Odor:** colorless, deliquescent crystals, granules, or powder	**Appearance and Odor:** a silvery-white, body-centered cubic structure; becomes yellowish on exposure to moist air
Relative Molecular Mass: 63.02	**Relative Molecular Mass:** 68.95	**Relative Atomic Mass:** 6.941
Density: 1.0543 (10 % nitric acid)	**Density:** 2.38	**Density:** 0.534
Solubility in Water: soluble	**Solubility in Water:** soluble	**Solubility in Water:** lithium reacts with water forming the hydroxide and hydrogen gas
Solvent Solubility: decomposes in alcohol	**Solvent Solubility:** soluble in alcohol	**Solvent Solubility:** soluble in liquid ammonia, acids, and alcohol

NOTE: The physical and chemical data provided are for the pure components. Physical and chemical data for this lithium/nitric acid solution do not exist. The actual behavior of the solution may differ from the individual components.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not applicable **Method Used:** Not applicable **Autoignition Temperature:** Not applicable

Flammability Limits in Air (Volume %): **UPPER:** Not applicable
LOWER: Not applicable

Unusual Fire and Explosion Hazards: Although nitric acid does not burn, it is a powerful oxidizing agent that can react with combustible materials to cause fires. Lithium and lithium nitrate are negligible fire hazards when exposed to heat and/or flames.

Extinguishing Media: Use extinguishing media that is appropriate to the surrounding fire. Use a water spray to dilute nitric acid and to absorb liberated oxides of nitrogen.

Special Fire Procedures: Fire fighters should wear a self-contained breathing apparatus (SCBA) with a full face piece in the pressure demand or positive mode and other protective clothing.

SECTION V. REACTIVITY DATA

Stability: _X_ **Stable** ____ **Unstable**

Conditions to Avoid: Avoid heat and contact with combustible and other incompatible materials.

Incompatibility (Materials to Avoid): Keep nitric acid away from organic materials, plastics, rubber, and some forms of coatings. Nitric acid is incompatible with chlorine and metal ferrocyanide. Lithium nitrate is incompatible with certain acids, combustible materials, and reducing agents. Lithium is incompatible with strong acids.

See Section IV: *Unusual Fire and Explosion Hazards*

Hazardous Decomposition or Byproducts: Hazardous decomposition of nitric acid and/or lithium nitrate can produce various nitrogen oxides, including nitric oxide (NO), nitrogen dioxide (NO_2), nitrous oxide (N_2O), as well as nitric acid mist or vapor. Thermal decomposition of lithium may release toxic and/or hazardous gases.

Hazardous Polymerization: _____ **Will Occur** __X__ **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: __X__ **Inhalation** __X__ **Skin** __X__ **Ingestion**

Health Hazards (Acute and Chronic): Nitric Acid: Nitric acid may be fatal if inhaled, swallowed, or absorbed through the skin. This material causes burns and is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may be fatal as a result of spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Lithium Nitrate: Lithium nitrate may be harmful by inhalation, ingestion, or skin absorption. Exposure may cause irritation of the skin, eyes, mucous membranes, and upper respiratory tract. Exposure can cause stomach pains, vomiting, diarrhea, nausea, dizziness, headache, and convulsions. Large doses of lithium compounds have caused dizziness and prostration, and can cause kidney damage if sodium intake is limited.

Lithium: Lithium nitrate may be harmful by inhalation, ingestion, or skin absorption. This material causes burns and is extremely destructive to tissue of the skin, eyes, mucous membranes, and upper respiratory tract.

Signs and Symptoms of Exposure: Skin irritation and burning, yellow skin discoloration, wheezing, coughing, and difficulty breathing are symptomatic of overexposure to nitric acid.

Medical Conditions Generally Aggravated by Exposure: Skin conditions are aggravated by the acid in this solution.

Listed as a Carcinogen/Potential Carcinogen:

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens		X
In the International Agency for Research on Cancer (IARC) Monographs		X
By the Occupational Safety and Health Administration (OSHA)		X

Emergency and First Aid Procedures:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Obtain medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance if necessary.

Inhalation: If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Obtain medical assistance if necessary.

Ingestion: If ingestion occurs, wash out mouth with water. **DO NOT** induce vomiting. Obtain medical assistance if necessary.

NOTE: Wash affected skin areas with 5 % solution of sodium bicarbonate ($NaHCO_3$). If ingested, the risk versus the benefit of the passage of a naso-gastric tube is debatable. Activated charcoal is of no value. **DO NOT** give the exposed person bicarbonate to neutralize the material.

TARGET ORGAN(S) OF ATTACK: **Nitric Acid:** skin, teeth, eyes, and upper respiratory tract
Lithium and Lithium Nitrate: Poisoning may effect the lungs and liver.

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled: Notify safety personnel of spills. Surfaces contaminated with spills should be covered with soda ash or sodium bicarbonate to neutralize the acid. Place the neutralized material into containers suitable for eventual disposal, reclamation, or destruction.

Waste Disposal: Follow all federal, state, and local laws governing disposal.

Handling and Storage: Provide general and local explosion proof ventilation systems to maintain airborne concentrations below the TLV. Provide approved respiratory apparatus for nonroutine or emergency use. Use an approved filter and vapor respirator when the vapor or mist concentrations are high. Wear gloves and chemical safety glasses where contact with the liquid or high vapor concentrations may occur. An eye wash station and washing facilities should be readily available near handling and use areas

NOTE: Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources:

MDL Information Systems, Inc., MSDS *Lithium*, 10 September 1999.
MDL Information Systems, Inc., MSDS *Lithium Nitrate*, 10 September 1998.
MDL Information Systems, Inc., MSDS *Nitric Acid*, 01 June 2000.
The Sigma Aldrich Library of Chemical Safety Data, Ed. II, 1988.
The Merck Index, 11th ed., 1989.

Disclaimer: Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data on the MSDS. The certified value for this material is given in the NIST Certificate of Analysis.

MATERIAL SAFETY DATA SHEET

SRM Supplier: National Institute of Standards and Technology
Standard Reference Materials Program
Bldg. 202 Rm. 211
Gaithersburg, Maryland 20899

SRM Number: 3168a
MSDS Number: 3168a
SRM Name: Zinc Standard Solution
Date of Issue: 13 September 2000

MSDS Coordinator: Joylene W.L. Thomas
Phone: (301) 975-6776
ChemTrec: 1-800-424-9300

FAX: (301) 926-4751
E-mail: SRMMSDS@nist.gov

SECTION I. MATERIAL IDENTIFICATION

Material Name: Zinc Standard Solution

Description: SRM 3168a is a single element solution prepared gravimetrically to contain a nominal 10 mg/g of zinc with a nitric acid volume fraction of 10 %.

Other Designations: **Zinc** (blue powder) **in Nitric Acid** (aqua fortis; hydrogen nitrate; azotic acid; engraver's acid) **Zinc Nitrate*** (zinc dinitrate; zinc (II) nitrate) in **Standard Solution**

Name	Chemical Formula	CAS Registry Number
Nitric Acid	HNO_3	7697-37-2
Zinc Nitrate	$Zn(NO_3)_2$	7779-88-6
Zinc	Zn	7440-66-6

DOT Classification: Nitric Acid Solution, ID: UN2031

Manufacturer/Supplier: Available from a number of suppliers

* The addition of zinc to nitric acid, along with other intermediate chemical reactions, forms zinc nitrate which will precipitate upon evaporation or drying of the solution.

SECTION II. HAZARDOUS INGREDIENTS

Hazardous Components	Nominal Concentration (%)	Exposure Limits and Toxicity Data
Nitric Acid	10	ACGIH TLV-TWA: 2 mg/kg or 5 mg/m^3
		ACGIH-TLV-STEL: 4 mg/kg or 10 mg/m^3
		Mouse, Inhalation: LC_{50}: 67 mg/kg
		Human, Oral: LD_{LO}: 430 mg/kg
Zinc Nitrate	2.9	No occupational exposure limits established
		Rabbit, Skin: 500 mg/24 h (severe irritation)
		Rat, Oral: LD_{50}: 2500 mg/kg
Zinc	1.0	OSHA TLV-TWA: 1 mg/m^3
		ACGIH- TLV-TWA: 5 mg/m^3 (as ZnO) (fume) 10 mg/m^3 (as ZnO) (dust)
		Human, Skin: 300 µg/3 days (skin irritation)
		Human, Inhalation: TC_{LO}: 124 mg/m^3/50 min

SECTION III. PHYSICAL/CHEMICAL CHARACTERISTICS

Nitric Acid	Zinc Nitrate	Zinc
Appearance and Odor: a white to slightly yellow liquid that darkens to a brownish color upon aging and exposure to light characteristic choking, nitrogen dioxide odor	**Appearance and Odor:** odorless, colorless to white, hygroscopic crystals with an astringent taste	**Appearance and Odor:** odorless, bluish-white metal or powder which may form a white carbonate coating on exposure to moist air
Relative Molecular Mass: 63.02	**Relative Molecular Mass:** 189.39	**Relative Atomic Mass:** 65.38
Density: 1.054 (10 % nitric acid)	**Density:** not applicable	**Density:** 4.472
Solubility in Water: complete	**Solubility in Water:** soluble	**Solubility in Water:** reacts with water
Solvent Solubility: decomposes in alcohol	**Solvent Solubility:** not applicable	**Solvent Solubility:** soluble in alcohol, alkali materials, and acetic acid

NOTE: The physical and chemical data provided are for the pure components. Physical and chemical data for this zinc/nitric acid solution do not exist. The actual behavior of the solution may differ from the individual components.

SECTION IV. FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not applicable **Method Used:** Not applicable **Autoignition Temperature:** Not applicable

Flammability Limits in Air (Volume %): **UPPER:** Not applicable
LOWER: Not applicable

Unusual Fire and Explosion Hazards: Although nitric acid does not burn, it is a powerful oxidizing agent that can react with combustible materials to cause fires. Zinc and zinc nitrate are negligible fire hazards when exposed to heat and/or flames.

Extinguishing Media: Use extinguishing mediathat is appropriate to the surrounding fire. Use a water spray to dilute nitric acid and to absorb liberated oxides of nitrogen.

Special Fire Procedures: Fire fighters should wear a self-contained breathing apparatus (SCBA) with a full face piece in the pressure demand or positive mode and other protective clothing.

SECTION V. REACTIVITY DATA

Stability: __X__ **Stable** _____ **Unstable**

Conditions to Avoid: Avoid heat and contact with combustible and other incompatible materials.

Incompatibility (Materials to Avoid): Keep nitric acid away from organic materials, plastics, rubber, and some forms of coatings. Nitric acid is incompatible with chlorine and metal ferrocyanide. Zinc nitrate is incompatible with certain acids, combustible materials, and reducing agents. Zinc is incompatible with strong acids.

See Section IV: *Unusual Fire and Explosion Hazards*

Hazardous Decomposition or Byproducts: Hazardous decomposition of nitric acid and/or zinc nitrate can produce various nitrogen oxides, including nitric oxide (NO), nitrogen dioxide (NO_2) nitrous oxide (N_2O), as well as nitric acid mist or vapor. Thermal decomposition of zinc may release toxic and/or hazardous gases.

Hazardous Polymerization: _____ **Will Occur** __X__ **Will Not Occur**

SECTION VI. HEALTH HAZARD DATA

Route of Entry: X **Inhalation** X **Skin** X **Ingestion**

Health Hazards (Acute and Chronic): Nitric Acid Nitric acid may be fatal if inhaled, swallowed, or absorbed through the skin. This material causes burns and is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may be fatal as a result of spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Zinc Nitrate: Zinc nitrate is harmful if inhaled, ingested or absorbed through the skin. This material is extremely destructive to the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may be fatal as a result of spasm, inflammation, and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Zinc: Zinc may be harmful by inhalation, ingestion, or skin absorption. Exposure may cause irritation of the skin, eyes, mucous membranes, and upper respiratory tract.

Medical Conditions Generally Aggravated by Exposure: Nitric acid may affect eye disorders, respiratory disorders, skin disorders, and allergies.

Listed as a Carcinogen/Potential Carcinogen:

	Yes	No
In the National Toxicology Program (NTP) Report on Carcinogens		X
In the International Agency for Research on Cancer (IARC) Monographs		X
By the Occupational Safety and Health Administration (OSHA)		X

Emergency and First Aid Procedures:

Skin Contact: Remove contaminated shoes and clothing. Rinse affected area with large amounts of water followed by washing the area with soap and water. Watch for chemical irritations and treat them accordingly. Obtain medical assistance if necessary.

Eye Contact: Immediately flush eyes, including under the eyelids, with copious amounts of water for at least 15 minutes. Obtain medical assistance if necessary.

Inhalation: If inhaled, move the victim to fresh air. If breathing is difficult, give oxygen; if the victim is not breathing, give artificial respiration. Obtain medical assistance if necessary.

Ingestion: If ingestion occurs, wash out mouth with water.**DO NOT** induce vomiting. Obtain medical assistance if necessary.

NOTE (Nitric Acid): Wash affected skin areas with 5 % solution of sodium bicarbonate ($NaHCO_3$) If ingested, the risk versus the benefit of the passage of a naso-gastric tube is debatable. Activated charcoal is of no value.**DO NOT** give the exposed person bicarbonate to neutralize the material.

TARGET ORGAN(S) OF ATTACK: **Nitric Acid:** skin, teeth, eyes, and upper respiratory tract

Zinc and Zinc Nitrate: Poisoning may effect gastrointestinal tract, lungs, central nervous system, hematopoietic system, bones, eyes, skin, and mucous membranes.

SECTION VII. PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be Taken in Case Material is Released or Spilled Notify safety personnel of spills. Surfaces contaminated with spills should be covered with soda ash or sodium bicarbonate to neutralize the acid. Place the neutralized material into containers suitable for eventual disposal, reclamation, or destruction.

Waste Disposal: Follow all federal, state, and local laws governing disposal.

Handling and Storage: Provide general and local explosion proof ventilation systems to maintain airborne concentrations below the TLV. Provide approved respiratory apparatus for nonroutine or emergency use. Use an approved filter and vapor respirator when the vapor or mist concentrations are high. Wear gloves and chemical safety glasses where contact with the liquid or high vapor concentrations may occur. An eye wash station and washing facilities should be readily available near handling and use areas.

> **NOTE:** Contact lenses pose a special problem; soft lenses may absorb irritants and all lenses concentrate them. **DO NOT** wear contact lenses in the laboratory.

Store this material in its original container at room temperature.

SECTION VIII. SOURCE DATA/OTHER COMMENTS

Sources:

MDL Information Systems, Inc., MSDS*Zinc*, 01 June 2000.
MDL Information Systems, Inc., MSDS*Zinc Nitrate*, 02 June 1999.
MDL Information Systems, Inc., MSDS*Nitric Acid*, 01 June 2000.
The Merck Index, 11th ed., 1989.
The Sigma-Aldrich Library of Chemical Safety Data, Ed. II, 1988.

Disclaimer: Physical and chemical data contained in this MSDS are provided only for use in assessing the hazardous nature of the material. The MSDS was prepared carefully, using current references; however, NIST does not certify the data on the MSDS. The certified value for this material is given in the NIST Certificate of Analysis.

011600

OLYMPUS AMERICA, INC.
MATERIAL SAFETY DATA SHEET (MSDS)

Product Identification

Trade Name: Extran MA 03 Wash Solution
Catalog Number: OSR0001

Manufacturer's Name: OLYMPUS AMERICA, INC.
Diagnostic Systems Division
Two Corporate Center Drive
Melville, NY 11042-1189
(800) 223-0130

Preparation or revision date: 04/2000

Hazardous Ingredients

The information presented for each chemical entity in this MSDS represents data available for the individual chemical, and not for the reagent mixture.

Chemical Name	%	CAS No	Hazards
Nitrolotriacetic Acid, trisodium salt	1-10%	5064-31-3	Poison
Sodium Hydroxide	0.5-2%	1310-73-2	Corrosive
Ethoxylated Oxoalcohol	1-10%	None	Irritant

Physical and Chemical Characteristics

Form:	liquid
Color:	colorless
pH:	11.6 at 20°C
Melting temperature:	not available
Boiling temperature:	not available
Ignition temperature:	not available
Flash point:	not available
Density:	1.06 g/cm^3
Solubility in water:	soluble at 20°C

Physical Hazard

Conditions to be avoided: Strong heating
Substances to be avoided: Acids
Hazardous decomposition products: None

Fire and Explosive Hazard Data

Flashpoint: N/A
Noncombustible
Negligible fire hazard when exposed to heat or flame.
Extinguishing Media: To suit environment.
Unusual fire and explosion hazards: None

Health Hazard Data

Threshold Limit Value:	None established.
Inhalation:	Fumes from spills are irritating to mucous membranes. Very little hazard from properly stored solution.
Skin Contact:	Irritant, reddening of skin, skin damage.
Eye Contact:	Severe irritation and burns. Risk of corneal clouding and blindness
Ingestion:	Burns in esophagus and stomach.
Medical Conditions Generally Aggravated by Exposure:	None known.
First Aid:	1. Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. 2. Ingestion: Dilute by giving lemon juice, table vinegar or raw eggs mixed into milk, followed by plenty of water. Contact local Poison Control Center or physician immediately. Avoid vomiting (risk of perforation). 3. Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Dab with polyethylene glycol 400. Wash clothing before reuse. Call a physician. 4. Eyes: Flush with water for at least 15 minutes, lifting lower and upper eyelids. Call a physician.

Suspected Cancer Agent

_____ No: This product's ingredients are not found in the lists below.

Yes (Nitrolotriacetic acid): __X__ Federal OSHA _____ NTP __X__ IARC

Special Protection Information

Ventilation Requirements: No special ventilation required.

Specific Personal Protective Equipment:

Respiratory:	Required when vapors/aerosols are generated.
Eyes:	Use goggles or safety glasses when dispensing solution.
Gloves:	Use latex rubber or plastic gloves when exposed to solution.
Other:	Use rubber apron, etc. to protect body from any splashing conditions. Use rubber protective shoes if spills occur. Safety showers and eyewash fountains should be available in storage and handling areas.

Environmental Protective Procedures

Spill Response:	Flush with water to dilute as much as possible. Absorb with non-combustible material.
Waste Disposal:	Federal, State and local regulations must be followed.

Special Precautions

OLYMPUS

TELEFAX

To: Lani

Fax: 818 503 6 504

Date: 5/13/03

Page 1 of: 3

From: Paul Tr. nsk

Fax:

Phone:

E-Mail:

COMMENTS:

OLYMPUS AMERICA INC.
TWO CORPORATE CENTER DRIVE, MELVILLE, NEW YORK 11747-3157
TELEPHONE (631) 844-5000

011604

PerkinElmer LLC
710 Bridgeport Avenue
Shelton, CT 06484
Phone: (203) 925-4600

PerkinElmer™ instruments.

Material Safety Data Sheet

Product: Compound, ITD Calibration

Part Number: N621-2407
MSDS Number: X621-2407
Revision: A
Date: June 26, 1990

24-Hour Emergency Phone:
CHEMTREC (800) 424-9300

SECTION I: MATERIAL IDENTIFICATION

TRADE/MATERIAL NAME: Perfluoro compound.

SYNONYMS: FC-43 Fluorinert.

CHEMICAL FORMULA: No data found.

CAS NUMBER: 86508-42-1

MOLECULAR WEIGHT: No data found.

DOT HAZARD CLASS: No data found.

SECTION II: INGREDIENTS AND HAZARDS

HAZARDOUS INGREDIENTS: Perfluoro compound.

PRECAUTIONARY MEASURES:

Avoid inhalation, ingestion and contact with eyes and skin.
Wear chemical resistant goggles, face shield, gloves and clothing.
Wear NIOSH/MSHA approved respirator.
Use in a laboratory hood or with local exhaust.
Wash thoroughly after use.
Keep container tightly sealed when not in use.

EMERGENCY FIRST AID:

EYES: Flush with water for at least 15 minutes, occasionally lifting upper and lower eyelids.

SKIN: Remove contaminated clothing, then flush skin with water for at least 15 minutes. Wash clothing thoroughly, and separately, before re-use.

IF IRRITATION CONTINUES, GET MEDICAL ATTENTION IMMEDIATELY.

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PerkinElmer™ instruments.

Material Safety Data Sheet

SECTION III: PHYSICAL DATA

APPEARANCE: Clear, colorless liquid.

ODOR: Odorless.

SOLUBILITY: Insoluble in water.

BOILING POINT: Typically 174°C (345°F)

MELTING POINT: No data found.

SPECIFIC GRAVITY (Water=1): Approximately 1.9

VAPOR DENSITY (Air=1): Approximately 23.3

VAPOR PRESSURE (mm Hg): Approximately 1.3 @25°C (77°F)

EVAPORATION RATE (Butyl Acetate=1): <1

FLASH POINT: Noncombustible.

FLAMMABLE LIMITS: Not applicable.

SECTION IV: FIRE AND EXPLOSION INFORMATION

FIRE: Noncombustible.

EXPLOSION: No data found.

FIRE EXTINGUISHING MEDIA: Not applicable.

SPECIAL INFORMATION: Not applicable.

SECTION V: REACTIVITY DATA

STABILITY: Stable.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen fluoride and perfluoroisobutylene.

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITIES: Finely divided active metals, alkali and alkaline earth metals.

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Material Safety Data Sheet

SECTION VI: HEALTH HAZARD INFORMATION

A. EXPOSURE ROUTE AND HEALTH EFFECTS

INHALATION: The hazards associated with ITD Calibration Compound are expected to be low. Above the boiling point, however, toxic decomposition products such as hydrogen fluoride and perfluoroisobutylene may be liberated.

INGESTION: No data found. Regard as toxic by ingestion.

SKIN CONTACT: No data found. Regard as irritating to the skin.

EYE CONTACT: No data found. Regard as irritating to the eyes.

CHRONIC EXPOSURE: No data found.

AGGRAVATION OF PREEXISTING CONDITIONS: No data found.

B. FIRST AID

INHALATION: Move person to fresh air. Administer oxygen if person experiences difficulty in breathing.

INGESTION: Immediately contact local poison control center.

SKIN CONTACT: Remove contaminated clothing, then flush skin with water for at least 15 minutes. Wash clothing thoroughly, and separately, before re-use.

EYE CONTACT: Flush with water for at least 15 minutes, occasionally lifting upper and lower eyelids.

IF IRRITATION CONTINUES, GET MEDICAL ATTENTION IMMEDIATELY.

C. TOXICITY DATA:

RTECS NUMBER: No data found.

TOXICITY DATA: No data found.

SECTION VII: SPILL/LEAK AND DISPOSAL INFORMATION

SPILLS: Absorb with dry inert material. Transfer to disposal drums.

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Phone: (203) 925-4600

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Material Safety Data Sheet

DISPOSAL: Comply with all Federal, state and local regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

AIRBORNE EXPOSURE LIMITS:

SUBSTANCE	THRESHOLD LIMIT VALUE
Perfluoro compounds	No data found.

VENTILATION SYSTEM: Laboratory hood or local exhaust.

RESPIRATORS: NIOSH/MSHA approved.

SKIN PROTECTION: Chemical resistant clothing and gloves.

EYE PROTECTION: Chemical resistant goggles and face shield.

SECTION IX: SPECIAL PRECAUTIONS

Store product away from incompatible materials.

NOTICE

The information and recommendations presented herein are based on sources believed reliable as of the date hereof and relate only to the specific material designated. PERKIN ELMER LLC makes no representations as to the completeness or accuracy thereof. It is intended only for use by persons having technical skills and at their own discretion and risk. It is the user's responsibility for the product's safe use, the product's suitability for the intended use, and the product's safe disposal. PERKIN ELMER LLC neither assumes or authorizes any other person to assume for it, the use of, or reliance upon, this information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR TO THE PRODUCT TO WHICH THE INFORMATION REFERS.

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710 Bridgeport Avenue
Shelton, CT 06484
Phone: (203) 925-4600

Y

Material Safety Data Sheet

Product: Oil, Vacuum Pump

Part Number: 0990-8733
MSDS Number: X990-8733

24-Hour Emergency Phone:
CHEMTREC (800) 424-9300

Revision: B
Date: May 30, 1991

SECTION I: MATERIAL IDENTIFICATION

TRADE/MATERIAL NAME: Solvent refined neutral paraffinic oil.

SYNONYMS: Vacuum pump oil, mechanical pump oil, roughing pump oil, mineral oil, solvent-dewaxed heavy paraffinic distillate.

CHEMICAL FORMULA: $CH_3-(CH_2)_n-CH_3$ where n = 20 to 40

CAS NUMBER: 64742-65-0

MOLECULAR WEIGHT: No data found.

DOT HAZARD CLASS: Not regulated.

SECTION II: INGREDIENTS AND HAZARDS

HAZARDOUS INGREDIENTS: Solvent-dewaxed heavy paraffinic distillate.

PRECAUTIONARY MEASURES:

Avoid inhalation, ingestion and contact with eyes and skin.
Wear chemical resistant goggles, face shield, gloves and clothing.
Wear NIOSH/MSHA approved respirator.
Use in a laboratory hood or with local exhaust.
Wash thoroughly after use.
Keep container tightly sealed when not in use.

EMERGENCY FIRST AID:

EYES: Flush with water for at least 15 minutes, occasionally lifting upper and lower eyelids.

SKIN: Remove contaminated clothing, then flush skin with water for at least 15 minutes. Wash clothing thoroughly, and separately, before re-use.

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Material Safety Data Sheet

IF IRRITATION CONTINUES, GET MEDICAL ATTENTION IMMEDIATELY.

SECTION III: PHYSICAL DATA

APPEARANCE: Pale yellow, viscous liquid.

ODOR: Faint petroleum odor.

SOLUBILITY: Insoluble in water.

BOILING POINT: >200?C (>392?F)

MELTING POINT: No data found.

SPECIFIC GRAVITY (Water=1): 0.86

VAPOR DENSITY (Air=1): 14

VAPOR PRESSURE (mm Hg): <0.001 @ 25?C (77?F)

EVAPORATION RATE (ETHER=1): Negligible.

FLASH POINT: >213?C (>415?F)

FLAMMABLE LIMITS: No data found.

SECTION IV: FIRE AND EXPLOSION INFORMATION

FIRE: Evacuate all persons not engaged in fire fighting. Water fog may be used to cool exposed equipment and containers. Water sprayed directly on the fire will cause the burning liquid to float and the fire to spread.

EXPLOSION: Combustible vapors, which are heavier than air, can accumulate in low areas and spread along the ground or floor to points away from the site of the liquid.

FIRE EXTINGUISHING MEDIA: Dry chemical, foam or carbon dioxide (CO_2).

SPECIAL INFORMATION: Avoid potential ignition sources such a open flames, electric arcs, hot surfaces and sources of sparks. Avoid exposure of product to temperatures above 200?C (392?F).

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Material Safety Data Sheet

SECTION V: REACTIVITY DATA

STABILITY: Stable.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide may be liberated if burned or heated to decomposition.

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITIES: Strong acids, alkalies and oxidizers such as oxygen and chlorine.

SECTION VI: HEALTH HAZARD INFORMATION

A. EXPOSURE ROUTE AND HEALTH EFFECTS

INHALATION: Exposure to vacuum pump oil mist at concentrations above the Threshold Limit Value may cause irritation to the upper respiratory tract.

INGESTION: May cause vomiting. If swallowed, may be aspirated into lungs, causing pulmonary edema and chemical pneumonitis.

SKIN CONTACT: Irritating to the skin. May cause skin disorders including dermatitis, oil acne and folliculitis.

EYE CONTACT: Irritating to the eyes.

CHRONIC EXPOSURE: Prolonged or repeated overexposure to vacuum pump oil mist may cause pulmonary effects. In the liquid state, skin disorders, as noted above, are the most commonly reported effects.

AGGRAVATION OF PREEXISTING CONDITIONS: Consult a physician prior to assigning workers with respiratory or skin disorders to tasks requiring the use of vacuum pump oil.

B. FIRST AID

INHALATION: Move person to fresh air. Administer oxygen if person experiences difficulty in breathing.

INGESTION: Immediately induce vomiting by administering two glasses of water and sticking finger down victim's throat. Never administer anything by mouth to an unconscious person. Immediately contact local poison control center.

SKIN CONTACT: Remove contaminated clothing, then flush skin

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Material Safety Data Sheet

with water for at least 15 minutes. Wash clothing thoroughly, and separately, before re-use.

EYE CONTACT: Flush with water for at least 15 minutes, occasionally lifting upper and lower eyelids.

IF IRRITATION CONTINUES, GET MEDICAL ATTENTION IMMEDIATELY.

C. TOXICITY DATA:

RTECS NUMBER: PY8038500

TOXICITY DATA:

LD50: No data cited.

Tumorigenic data cited.

SECTION VII: SPILL/LEAK AND DISPOSAL INFORMATION

SPILLS: Block entry to sewers, streams, rivers and bodies of water. Absorb with dry inert material. Transfer to disposal drums.

DISPOSAL: Comply with all Federal, state and local regulations.

SECTION VIII: SPECIAL PROTECTION INFORMATION

AIRBORNE EXPOSURE LIMITS:

SUBSTANCE	THRESHOLD LIMIT VALUE	
Oil mist, mineral	5 mg/m^3	TWA
	10 mg/m^3	STEL

VENTILATION SYSTEM: Laboratory hood or local exhaust.

RESPIRATORS: NIOSH/MSHA approved.

SKIN PROTECTION: Chemical resistant clothing and gloves.

EYE PROTECTION: Chemical resistant goggles and face shield.

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Material Safety Data Sheet

SECTION IX: SPECIAL PRECAUTIONS

Store in a cool, dry well-ventilated area, away from potential sources of ignition.

Avoid exposure of product to temperatures above 200?C (392?F).

Keep separated from incompatible materials.

Dispose, as hazardous waste, contaminated articles of clothing which cannot be decontaminated. Examples include leather belts and shoes.

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011614

MATERIAL SAFETY DATA SHEET

Date Printed: 05/28/2003
Date Updated: 10/07/2002
Version 1.3

Section 1 - Product and Company Information

Product Name	ACE CALIBRATOR
Product Number	30550
Brand	TRINITY
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
ACE CALIBRATOR AND CONTROLS	None	No

Ingredient Name	CAS #	Percent	SARA 313
ANGIOTENSIN CONVERTING ENZYME	9015-82-1		No
BUFFERED HUMAN SERUM BASE	None		No
Chemical Family None			

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Biohazard.
Handle as if capable of transmitting infectious agents.

HMIS RATING
HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Use extinguishing media appropriate to surrounding fire conditions.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.

Store at 2-8°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

011616

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance Physical State: Solid

Property	Value	At Temperature or Pressure
Molecular Weight	N/A	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Nature of decomposition products not known.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SENSITIZATION
Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

SIGNS AND SYMPTOMS OF EXPOSURE
Potentially biohazardous material.

CONDITIONS AGGRAVATED BY EXPOSURE
The toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Disposal should be made in accordance with existing disposal practices employed for infectious waste at your institution. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Biohazard.
US Statements: Handle as if capable of transmitting infectious agents.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2003 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

MATERIAL SAFETY DATA SHEET

Date Printed: 05/28/2003
Date Updated: 10/07/2002
Version 1.3

Section 1 - Product and Company Information

Product Name	ACE CONTROL-E
Product Number	A7040
Brand	TRINITY
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
ACE CALIBRATOR AND CONTROLS	None	No

Ingredient Name	CAS #	Percent	SARA 313
ANGIOTENSIN CONVERTING ENZYME	9015-82-1		No
BUFFERED HUMAN SERUM BASE	None		No

Chemical Family None

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Biohazard.
Handle as if capable of transmitting infectious agents.

HMIS RATING
HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Use extinguishing media appropriate to surrounding fire conditions.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.

Store at 2-8°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

011621

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance Physical State: Solid

Property	Value	At Temperature or Pressure
Molecular Weight	N/A	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Nature of decomposition products not known.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SENSITIZATION
Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

SIGNS AND SYMPTOMS OF EXPOSURE
Potentially biohazardous material.

CONDITIONS AGGRAVATED BY EXPOSURE
The toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Disposal should be made in accordance with existing disposal practices employed for infectious waste at your institution. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Biohazard.
US Statements: Handle as if capable of transmitting infectious agents.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

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MATERIAL SAFETY DATA SHEET

Date Printed: 05/28/2003
Date Updated: 10/07/2002
Version 1.3

Section 1 - Product and Company Information

Product Name	ACE CONTROL-N
Product Number	A6040
Brand	TRINITY
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
ACE CALIBRATOR AND CONTROLS	None	No

Ingredient Name	CAS #	Percent	SARA 313
ANGIOTENSIN CONVERTING ENZYME	9015-82-1		No
BUFFERED HUMAN SERUM BASE	None		No

Chemical Family None

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Biohazard.
Handle as if capable of transmitting infectious agents.

HMIS RATING
HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 4
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Use extinguishing media appropriate to surrounding fire conditions.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.

Store at 2-8°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance Physical State: Solid

Property	Value	At Temperature or Pressure
Molecular Weight	N/A	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Nature of decomposition products not known.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.

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Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: May be harmful if swallowed.

SENSITIZATION
Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

SIGNS AND SYMPTOMS OF EXPOSURE
Potentially biohazardous material.

CONDITIONS AGGRAVATED BY EXPOSURE
The toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Disposal should be made in accordance with existing disposal practices employed for infectious waste at your institution. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Biohazard.
US Statements: Handle as if capable of transmitting infectious agents.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

DISCLAIMER

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WARRANTY

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MATERIAL SAFETY DATA SHEET

Date Printed: 05/28/2003
Date Updated: 09/06/2002
Version 1.2

Section 1 - Product and Company Information

Product Name	ACE REAGENT
Product Number	30510
Brand	TRINITY
Company	Sigma-Aldrich
Street Address	3050 Spruce Street
City, State, Zip, Country	SAINT LOUIS MO 63103 US
Technical Phone:	314 771 5765
Emergency Phone:	414 273 3850 Ext. 5996
Fax:	800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
ACE REAGENT	None	No

Ingredient Name	CAS #	Percent	SARA 313
Information regarding the specific chemical identity of this material is being withheld as a trade secret of the manufacturer.	None		

Chemical Family None

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Irritant.
Irritating to eyes, respiratory system and skin.

Information regarding the specific chemical identity of this material is being withheld as a trade secret of the manufacturer.

HMIS RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed. Store in a cool dry place.

Store at 2-8°C

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Mechanical exhaust required. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance: Physical State: Liquid.

Property	Value	At Temperature or Pressure
Molecular Weight	N/A	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes eye irritation.
Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12 - Ecological Information

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: Xi
Indication of Danger: Irritant.
R: 36/37/38
Risk Statements: Irritating to eyes, respiratory system and skin.
S: 26 36
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Irritant.
Risk Statements: Irritating to eyes, respiratory system and skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

DISCLAIMER

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Trinity Bio Tech

011635

SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed 03/07/2003
Date Updated: 09/01/2002
Version 1.20

Section 1 - Product and Company Information

Product Name GLUCOSE-6-PHOSPHATE DEHYDROGENASE CONTROL DEFICIENT
Product Number G5888
Brand TRINITY

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765 **Emergency Phone:** 414 273 3850 Ext. 5996
Fax: 800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
GLUCOSE-6-PHOSPHATE DEHYDROGENASE TYPEXXVI FROM HUMANERYTHROCYTES	None	No

Formula
Synonyms

Section 3 - Hazards Identification

Emergency Overview
Biohazard.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media
Suitable
Carbon dioxide, dry chemical powder, or appropriate foam. Water spray.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)
Wear protective equipment

Methods for Cleaning Up
Spilled material should be carefully wiped up or moistened with water and removed.

Section 7 - Handling and Storage

Storage
Suitable
Keep container closed. Store away from heat.

Section 8 - Exposure Controls / PPE

Engineering Controls
Mechanical exhaust required.

Personal Protective Equipment
Other
Wear appropriate government approved respirator, chemical-resistant gloves safety goggles, other protective clothing.

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Solid

Molecular Weight:	N/A
pH	N/A
BP/BP Range	N/A
MP/MP Range	N/A
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A

Flash Point °F	N/A
Flash Point °C	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.

Hazardous Decomposition Products
Hazardous Decomposition Products
Nature of decomposition products not known.

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Multiple Routes
May be harmful by inhalation, ingestion, or skin absorption. May cause irritation.

Sensitization
Sensitization
Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

Conditions Aggravated by Exposure
The toxicological properties have not been thoroughly investigated.

RTECS Number:

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Disposal should be made in accordance with existing disposal practices employed for infectious waste at your institution.
Observe all federal, state, and local environmental regulations

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

US Classification and Label Text
Indication of Danger
Biohazard.

United States Regulatory Information
SARA Listed: No

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

Disclaimer
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Warranty
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EMERGENCY PHONE 1-314-771-5765

DATE 11/06/02
CUST#: 0-495-13875
PO#: 110102

M A T E R I A L S A F E T Y D A T A S H E E T

CATALOG #: 203-A
NAME: G-6-PDH SCREENING TEST KIT

HAZARDS IDENTIFIED WITH THIS PRODUCT ARE THOSE ASSOCIATED WITH THE FOLLOWING COMPONENT(S). REFER TO THE MATERIAL SAFETY DATA SHEET(S) FOR THE LISTED ITEM(S).

CATALOG NUMBER	NAME	PERCENT
203-2A	TRIZMA BUFFER	
203-2B	G-6-PDH SUBSTRATE	

LABEL PRECAUTIONARY STATEMENTS
HARMFUL
HARMFUL IF SWALLOWED.
VERY TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
RISK OF SERIOUS DAMAGE TO EYES.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

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MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-A

CATALOG #: 203-2A
NAME: TRIZMA BUFFER

HAZARDS IDENTIFIED WITH THIS PRODUCT ARE THOSE ASSOCIATED WITH THE FOLLOWING COMPONENT(S). REFER TO THE MATERIAL SAFETY DATA SHEET(S) FOR THE LISTED ITEM(S).

CATALOG NUMBER	NAME	PERCENT
T1503	TRIZMA BASE REAGENT GRADE	1.20
	SODIUM AZIDE	.09

- - - - MULTIPLE COMPONENT SPILL OR LEAK PROCEDURES - - - -

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHOD
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

LABEL PRECAUTIONARY STATEMENTS
IRRITANT
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

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EMERGENCY PHONE 1-314-771-5765

DATE 11/06/02
CUST#: 0-495-13875
PO#: 110102

MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

SECTION 1. - - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -

CATALOG #: T1503
NAME: TRIZMA BASE REAGENT GRADE

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #: 77-86-1
MF: C4H11NO3
EC NO: 201-064-4

SYNONYMS
ADDEX-THAM * 2-AMINO-2-(HYDROXYMETHYL)PROPANE-1,3-DIOL * 2-AMINO-2-(HYDROXYMETHYL)-1,3-PROPANEDIOL * 2-AMINO-2-METHYLOL-1,3-PROPANEDIOL * AMINOTRIMETHYLOLMETHANE * AMINOTRIS(HYDROXYMETHYL)METHANE * METHYLAMINE, 1,1,1-TRIS(HYDROXYMETHYL)- * PEHANORM * TALATROL * THAM-E * THAM SET * TRIMETHYLOLAMINOMETHANE * TRIS (BUFFERING AGENT) * TRISAMINE * TRIS-AMINO * TRISAMINOL * TRIS BUFFER * TRIS-HYDROXYMETHYL-AMINOMETHAN (GERMAN) * TRIS-HYDROXYMETHYLAMINOMETHANE * TRIS(HYDROXYMETHYL)METHANAMINE * TRIS(HYDROXYMETHYL)METHYLAMINE * TRISPUFFER * TRIS-STERIL * TROMETAMOL * TROMETAMOLE * TROMETHAMINE * TROMETHANE * TROMETHANMIN * TUTOFUSIN TRIS *

SECTION 3. - - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS
IRRITANT
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.
HYGROSCOPIC

SECTION 4. - - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - -

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.

SECTION 5. - - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - -

EXTINGUISHING MEDIA
WATER SPRAY.

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MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #: T1503
NAME: TRIZMA BASE REAGENT GRADE

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

ECTION 6. - - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
SWEEP TOGETHER THE WETTED MATERIAL CAREFULLY AND FILL INTO MARKED, SEALED CONTAINERS.

ECTION 7. - - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -

REFER TO SECTION 8.

CTION 8. - - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -

SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
WASH THOROUGHLY AFTER HANDLING.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
NIOSH/MSHA-APPROVED RESPIRATOR.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
CHEMICAL SAFETY GOGGLES.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

CTION 9. - - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
CRYSTALLINE
SOLID.

PHYSICAL PROPERTIES
BOILING POINT: 219 - 220 C
MELTING POINT: 171.2 - 172.3 C
SOLUBILITY:
WATER -Z25568
PH: 10.5 - 12.0
SWISS POISON CLASS: FREI

TION 10. - - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

CONTINUED ON NEXT PAGE

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CUST#: 0-495-13875
PO#: 110102

MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #: T1503
NAME: TRIZMA BASE REAGENT GRADE

STABILITY
STABLE.

INCOMPATIBILITIES
PROTECT FROM MOISTURE.
STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
CARBON MONOXIDE, CARBON DIOXIDE
NITROGEN OXIDES

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - - -

ACUTE EFFECTS
CAUSES SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES EYE IRRITATION.
MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
MAY BE HARMFUL IF INHALED.
MAY BE HARMFUL IF SWALLOWED.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: TY2900000
1,3-PROPANEDIOL, 2-AMINO-2-(HYDROXYMETHYL)-

TOXICITY DATA

ORL-RAT LD50:5900 MG/KG	BCFAAI 110,653,1971
IVN-RAT LD50:1800 MG/KG	NIIRDN -,419,1990
IVN-MUS LD50:1210 MG/KG	ABMGAJ 17,217,1966

TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (MUSCLE WEAKNESS)
BEHAVIORAL (COMA)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

SECTION 12. - - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - - -

CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.

CONTINUED ON NEXT PAGE

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CUST#: 0-495-13875
PO#: 110102

MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #: T1503
NAME: TRIZMA BASE REAGENT GRADE

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - - -

EUROPEAN INFORMATION
IRRITANT
R 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
NOHS 1974: HZD 81165; NIS 4; TNF 850; NOS 6; TNE 7274
NOES 1983: HZD 81165; NIS 9; TNF 2296; NOS 22; TNE 40897; TFE 30773
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

SECTION 16. - - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - -

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DATE 11/06/02
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M A T E R I A L S A F E T Y D A T A S H E E T

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

SECTION 1. - - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - - -

CATALOG #:
NAME: SODIUM AZIDE

SECTION 2. - - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #: 26628-22-8
EC NO: 247-852-1

SECTION 3. - - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS
SODIUM AZIDE MAY REACT WITH LEAD AND COPPER PLUMBING TO FORM HIGHLY EXPLOSIVE METAL AZIDES.

SECTION 4. - - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - - -

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN IMMEDIATELY.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN.
IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SECTION 5. - - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - - -

EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
AZIDE REACTS WITH MANY HEAVY METALS SUCH AS LEAD, COPPER, MERCURY, SILVER, GOLD TO FORM EXPLOSIVE COMPOUNDS. COPPER AND LEAD AZIDES ARE MORE SENSITIVE THAN NITROGLYCERINE. AZIDE REACTS WITH METAL HALIDES TO GIVE A RANGE OF METAL AZIDE HALIDES, MANY OF WHICH ARE EXPLOSIVE. INCOMPATIBLE WITH CHROMYL CHLORIDE, HYDRAZINE, BROMINE, CARBON DISULFIDE, DIMETHYL SULFATE, DIBROMOMALONITRILE.
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - - -

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011646

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CUST#: 0-495-13875
PO#: 110102

MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #:
NAME: SODIUM AZIDE

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SPILLED MATERIAL SHOULD BE CAREFULLY WIPED UP OR MOISTENED WITH WATER AND REMOVED.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -

SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
WASH THOROUGHLY AFTER HANDLING.
WASH CONTAMINATED CLOTHING BEFORE REUSE.
AVOID INHALATION.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
NIOSH/MSHA-APPROVED RESPIRATOR.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
CHEMICAL SAFETY GOGGLES.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
LIQUID.

SECTION 10. - - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

STABILITY
STABLE.

INCOMPATIBILITIES
DIMETHYL SULFATE IS INCOMPATIBLE WITH SODIUM AZIDE.
ACID CHLORIDES
HALOGENATED SOLVENTS
AVOID CONTACT WITH METALS.
AVOID CONTACT WITH ACID.
SODIUM AZIDE MAY REACT WITH LEAD AND COPPER PLUMBING TO FORM HIGHLY EXPLOSIVE METAL AZIDES.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
NATURE OF DECOMPOSITION PRODUCTS NOT KNOWN.

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

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MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #:
NAME: SODIUM AZIDE

ACUTE EFFECTS
MAY CAUSE SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
MAY CAUSE EYE IRRITATION.
MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.
MAY BE HARMFUL IF INHALED.
MAY BE HARMFUL IF SWALLOWED.
MANY AZIDES CAUSE A FALL IN BLOOD PRESSURE AND SOME INHIBIT ENZYME ACTION.
LABORATORY EXPERIMENTS IN ANIMALS HAVE SHOWN SODIUM AZIDE TO PRODUCE A PROFOUND HYPOTENSIVE EFFECT, DEMYELINATION OF MYELINATED NERVE FIBERS IN THE CENTRAL NERVOUS SYSTEM, TESTICULAR DAMAGE, BLINDNESS, ATTACKS OF RIGIDITY, HEPATIC AND CEREBRAL EFFECTS.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: NONE

SECTION 12. - - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - - -

CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - - -

EUROPEAN INFORMATION
EC INDEX NO: 011-004-00-7

SECTION 16. - - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - - - -

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MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #:
NAME: SODIUM AZIDE

P.O. BOX 355
MILWAUKEE, WISCONSIN 53201, USA
TRINITY BIOTECH
2901 GIRTS RD
JAMESTOWN NY 14701

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MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

SECTION 1. - - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - - -

CATALOG #: 203-2B
NAME: G-6-PDH SUBSTRATE

SECTION 2. - - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #:NONE

HAZARDOUS INGREDIENTS
INFORMATION REGARDING THE SPECIFIC CHEMICAL IDENTITY OF THIS MATERIAL IS BEING WITHHELD AS A TRADE SECRET OF THE MANUFACTURER.

SECTION 3. - - - - - - - - - - - HAZARDS IDENTIFICATION - - - - - - - - - -

LABEL PRECAUTIONARY STATEMENTS
HARMFUL
HARMFUL IF SWALLOWED.
RISK OF SERIOUS DAMAGE TO EYES.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - - - - - - - FIRST-AID MEASURES- - - - - - - - - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - - - - - - FIRE FIGHTING MEASURES - - - - - - - - - - -

EXTINGUISHING MEDIA
WATER SPRAY.
CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
FOAM AND WATER SPRAY ARE EFFECTIVE BUT MAY CAUSE FROTHING.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #: 203-2B
NAME: G-6-PDH SUBSTRATE

SECTION 6. - - - - - - - - - ACCIDENTAL RELEASE MEASURES- - - - - - - - -

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - - - - - - - HANDLING AND STORAGE- - - - - - - - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - - -

CHEMICAL SAFETY GOGGLES.
RUBBER GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
AVOID CONTACT AND INHALATION.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
SEVERE EYE IRRITANT.
HARMFUL SOLID.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - - - -

APPEARANCE AND ODOR
SOLID.

SECTION 10. - - - - - - - - - -STABILITY AND REACTIVITY - - - - - - - - -

STABILITY
STABLE.

INCOMPATIBILITIES
STRONG OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
THERMAL DECOMPOSITION MAY PRODUCE TOXIC FUMES OF PHOSPHORUS OXIDES AND/OR PHOSPHINE.
CARBON MONOXIDE, CARBON DIOXIDE
SODIUM/SODIUM OXIDES
NITROGEN OXIDES
SULFUR OXIDES

HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - - - - - - TOXICOLOGICAL INFORMATION - - - - - - - -

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011651

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MATERIAL SAFETY DATA SHEET

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #: 203-2B
NAME: G-6-PDH SUBSTRATE

ACUTE EFFECTS
HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
CAUSES SEVERE EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. - - - - - - - - - - ECOLOGICAL INFORMATION - - - - - - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - - - - - - DISPOSAL CONSIDERATIONS - - - - - - - - - -

DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - - - - - - TRANSPORT INFORMATION - - - - - - - - - -

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - - - - - - REGULATORY INFORMATION - - - - - - - - - -

EUROPEAN INFORMATION
CAUTION: SUBSTANCE NOT YET FULLY TESTED.
HARMFUL
R 22
HARMFUL IF SWALLOWED.
R 41
RISK OF SERIOUS DAMAGE TO EYES.
S 26
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S 36
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 16. - - - - - - - - - - OTHER INFORMATION- - - - - - - - - - -

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CUST#: 0-495-13875
PO#: 110102

M A T E R I A L S A F E T Y D A T A S H E E T

THIS MSDS IS FOR A COMPONENT OF CATALOG #: 203-2A

CATALOG #: 203-2B
NAME: G-6-PDH SUBSTRATE

2901 GIRTS RD
JAMESTOWN NY 14701

011653

011654

Utak Laboratories, Inc. Material Safety Data Sheet

I. General Information

Trade Name:	Serum TDM/Toxicology Control
Catalog Numbers:	22610 through 98813 and CUSTOM
Chemical Name:	Mixture
Formula:	Mixture

II. Ingredients

	Component	Percent	Threshold Limit Values
Human Serum:	Frozen/Liquid/Freeze Dried	> 99	Unknown
Drug Substances:	None-One, or more combinations	< 0.05	Below the percentage considered hazardous in mixtures

III. Physical Data

Boiling Point:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Specific Gravity ($H_2O = 1$):	N/A
Percent Volatile:	N/A
Evaporation Rate:	N/A
Solubility H_2O:	Freely soluble in H_2O
pH Range:	7-8 reconstituted with H_2O
Appearance:	Light Yellow crystalline powder
Odor:	Slight odor

IV. Fire and Explosion Hazard Data

Lel:	Unknown
Uel:	Unknown
Flash Point:	Unknown
Flammable Limits:	Unknown
Auto Ignition Temperature:	Unknown
Extinguishing Media:	Suitable type for surrounding materials
Special Fire Fighting Procedures:	As required for surrounding materials
Unusual Fire and Explosion Hazards:	None indicated

011655

V. Health Hazard Data

Threshold Limit Data:	Not established
Symptoms of Exposure:	Unknown
Medical Conditions Aggravated by Exposure:	Unknown
Primary Route(s) of Entry:	Broken skin
Emergency First Aid:	Treat minor cuts and abrasions in the appropriate manner using a disinfectant. Get medical assistance.

VI. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Store according to label instructions
Incompatibility:	Unknown
Materials to Avoid:	Strong acids or bases
Hazardous Polymerization:	Will not occur
Hazardous Decomposition Products:	Assumed stable

VII. Environmental Protection Procedures

Spill Response:	Wash immediate and surrounding area with a disinfectant water solution
Waste Disposal Method:	Dispose waste in accordance with all federal, state, and local regulations

VIII. Special Protection Information.

Eye Protection:	Safety goggles required
Skin Protection:	Impervious gloves
Respiratory Protection:	Avoid breathing dried material, use adequate ventilation and/or standard laboratory hood system
Other Protection:	Appropriate laboratory apparel

IX. Special Precautions

Insert Precautions:	1. For analytical use only 2. For laboratory use only 3. Although tested and found negative for HBs Ag by RIA and HTLV III by EIA, the materials should be treated as any other potentially infectious agent
Contaminated Equipment Precautions:	Wash and disinfect equipment and surrounding area
Hygienic Handling and Storage:	Observe standard laboratory safety practices, wash thoroughly after handling, store according to directions on the label, cap tightly

This information is intended to be applicable to TDM/Toxicology Control materials from Utak Laboratories only. It does not relate to the pure materials, which are used to manufacture this product. The information presented in this data sheet has been gathered from reliable sources, but has not been verified by Utak Laboratories. In all cases, therefore there is neither official representation nor specific guarantees for the complete accuracy of the information.

For further information concerning the various pure starting materials see over for listing of Pure Drug Substances and their CAS Numbers.

Utak Laboratories, Inc.
25020 Avenue Tibbitts
Valencia, California 91355

Toll free: (800) 235-3442
Direct: (661) 294-3935
Fax: (661) 294-9272

Prepared for the sole use of Utak Laboratories, Inc., and its products.

Utak Laboratories, Inc. Material Safety Data Sheet

I. General Information

Trade Name:	Urine TDM/Toxicology Control
Catalog Numbers:	12110 through 98816 and CUSTOM
Chemical Name:	Mixture
Formula:	Mixture

II. Ingredients

	Component	Percent	Threshold Limit Values
Human Urine:	Liquid/Frozen/Freeze Dried	> 99	Unknown
Drug Substances:	None-One, or more combinations	< 0.05	Below the percentage considered hazardous in mixtures

III. Physical Data

Boiling Point:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Specific Gravity ($H_2O = 1$):	N/A
Percent Volatile:	N/A
Evaporation Rate:	N/A
Solubility H_2O:	Freely soluble in H_2O
pH Range:	7-8 reconstituted with H_2O
Appearance:	Light Yellow crystalline powder
Odor:	Slight odor

IV. Fire and Explosion Hazard Data

Lel:	Unknown
Uel:	Unknown
Flash Point:	Unknown
Flammable Limits:	Unknown
Auto Ignition Temperature:	Unknown
Extinguishing Media:	Suitable type for surrounding materials
Special Fire Fighting Procedures:	As required for surrounding materials
Unusual Fire and Explosion Hazards:	None indicated

011659

V. Health Hazard Data

Threshold Limit Data:	Not established
Symptoms of Exposure:	Unknown
Medical Conditions Aggravated by Exposure:	Unknown
Primary Route(s) of Entry:	Broken skin
Emergency First Aid:	Treat minor cuts and abrasions in the appropriate manner using a disinfectant. Get medical assistance.

VI. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Store according to label instructions
Incompatibility:	Unknown
Materials to Avoid:	Strong acids or bases
Hazardous Polymerization:	Will not occur
Hazardous Decomposition Products:	Assumed stable

VII. Environmental Protection Procedures

Spill Response:	Wash immediate and surrounding area with a disinfectant water solution
Waste Disposal Method:	Dispose waste in accordance with all federal, state, and local regulations

VIII. Special Protection Information.

Eye Protection:	Safety goggles required
Skin Protection:	Impervious gloves
Respiratory Protection:	Avoid breathing dried material, use adequate ventilation and/or standard laboratory hood system
Other Protection:	Appropriate laboratory apparel

IX. Special Precautions

Insert Precautions:	1. For analytical use only 2. For laboratory use only 3. Although tested and found negative for HBs Ag by RIA and HTLV III by EIA, the materials should be treated as any other potentially infectious agent
Contaminated Equipment Precautions:	Wash and disinfect equipment and surrounding area
Hygienic Handling and Storage:	Observe standard laboratory safety practices, wash thoroughly after handling, store according to directions on the label, cap tightly

This information is intended to be applicable to TDM/Toxicology Control materials from Utak Laboratories only. It does not relate to the pure materials, which are used to manufacture this product. The information presented in this data sheet has been gathered from reliable sources, but has not been verified by Utak Laboratories. In all cases, therefore there is neither official representation nor specific guarantees for the complete accuracy of the information.

For further information concerning the various pure starting materials see over for listing of Pure Drug Substances and their CAS Numbers.

Utak Laboratories, Inc.
25020 Avenue Tibbitts
Valencia, California 91355

Toll free: (800) 235-3442
Direct: (661) 294-3935
Fax: (661) 294-9272

Prepared for the sole use of Utak Laboratories, Inc., and its products.

Utak Laboratories, Inc. Material Safety Data Sheet

I. General Information

Trade Name:	Whole Blood TDM/Toxicology Control
Catalog Numbers:	44519 through 98818 and CUSTOM
Chemical Name:	Mixture
Formula:	Mixture

II. Ingredients

	Component	Percent	Threshold Limit Values
Human Whole Blood:	Frozen/Liquid/Freeze Dried	> 99	Unknown
Drug Substances:	None-One, or more combinations	< 0.05	Below the percentage considered hazardous in mixtures

III. Physical Data

Boiling Point:	N/A
Vapor Pressure:	N/A
Vapor Density:	N/A
Specific Gravity ($H_2O = 1$):	N/A
Percent Volatile:	N/A
Evaporation Rate:	N/A
Solubility H_2O:	Freely soluble in H_2O
pH Range:	7-8 reconstituted with H_2O
Appearance:	Dark Red crystalline powder
Odor:	Slight odor

IV. Fire and Explosion Hazard Data

Lel:	Unknown
Uel:	Unknown
Flash Point:	Unknown
Flammable Limits:	Unknown
Auto Ignition Temperature:	Unknown
Extinguishing Media:	Suitable type for surrounding materials
Special Fire Fighting Procedures:	As required for surrounding materials
Unusual Fire and Explosion Hazards:	None indicated

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V. Health Hazard Data

Threshold Limit Data:	Not established
Symptoms of Exposure:	Unknown
Medical Conditions Aggravated by Exposure:	Unknown
Primary Route(s) of Entry:	Broken skin
Emergency First Aid:	Treat minor cuts and abrasions in the appropriate manner using a disinfectant. Get medical assistance.

VI. Reactivity Data

Stability:	Stable
Conditions to Avoid:	Store according to label instructions
Incompatibility:	Unknown
Materials to Avoid:	Strong acids or bases
Hazardous Polymerization:	Will not occur
Hazardous Decomposition Products:	Assumed stable

VII. Environmental Protection Procedures

Spill Response:	Wash immediate and surrounding area with a disinfectant water solution
Waste Disposal Method:	Dispose waste in accordance with all federal, state, and local regulations

VIII. Special Protection Information.

Eye Protection:	Safety goggles required
Skin Protection:	Impervious gloves
Respiratory Protection:	Avoid breathing dried material, use adequate ventilation and/or standard laboratory hood system
Other Protection:	Appropriate laboratory apparel

IX. Special Precautions

Insert Precautions:	1. For analytical use only 2. For laboratory use only 3. Although tested and found negative for HBs Ag by RIA and HTLV III by EIA, the materials should be treated as any other potentially infectious agent
Contaminated Equipment Precautions:	Wash and disinfect equipment and surrounding area
Hygienic Handling and Storage:	Observe standard laboratory safety practices, wash thoroughly after handling, store according to directions on the label, cap tightly

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Prepared for the sole use of Utak Laboratories, Inc., and its products.

UTAK Laboratories MESSENGER

UTAK LABORATORIES INC. • 25020 Avenue Tibbitts • Valencia, CA 91355 • (800) 235-3442
FAX (661) 294-9272 • Email: info@utak.com • Web Site: http://www.utak.com

Please call if the transmission is not legible.

Name:	Lanni Duong	Fax #	(818) 503-6504
Company:	Kaiser Permanente-North Hollywood (CA)	Phone #	(818) 503-6937
Date:	May 28, 2003	Total Pages:	2 (Including Cover)
Operator:	Melda Ramos		

Dear Lanni:

As per our phone conversation, attached is a list of the products purchased from UTAK Laboratories. Hopefully, this will be of some help.

If you have any questions or need additional information, please feel free to contact me.

Sincerely,

Melda Ramos

Melda Ramos
Customer Service

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Products Ordered by Kaiser

Product Code	Product Description	Trade Name	MSDS Catalog Numbers
22613	Benzodiazepines HR	Serum	22610 through 98813 & Custom
22614	Benzodiazepines MR	Serum	22610 through 98813 & Custom
61014	Trazodone HR	Serum	22610 through 98813 & Custom
61015	Trazodone MR	Serum	22610 through 98813 & Custom
66316	Tricyclics HR VI	Serum	22610 through 98813 & Custom
66317	Tricyclics MR VI	Serum	22610 through 98813 & Custom
88119	Volatiles	Serum	22610 through 98813 & Custom
93323	TDM Level 3	Serum	22610 through 98813 & Custom
44600-D(LTR10)	Defibrinated Plasma	Serum	22610 through 98813 & Custom
	Customs		
GC HR KPNH	Custom GC HR	Serum	22610 through 98813 & Custom
GC LR KPNH	Custom GC LR	Serum	22610 through 98813 & Custom
INTER A	Custom Interlab A	Serum	22610 through 98813 & Custom
INTER B	Custom Interlab B	Serum	22610 through 98813 & Custom
THIOC 5 TRL	Custom Thiocycanate 5	Serum	22610 through 98813 & Custom
THIOC 40 TRL	Custom Thiocycanate 40	Serum	22610 through 98813 & Custom
TRI SUL HR	Custom Trimeth/Sulfa HR	Serum	22610 through 98813 & Custom
TRI SUL MR	Custom Trimeth/Sulfa MR	Serum	22610 through 98813 & Custom
VOL LR LR KP	Custom Volatiles	Serum	22610 through 98813 & Custom

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Varian

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4 MSDs complete
(2 on Non-HAZ-chem list)

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VARIAN

TOXI-LAB Products Not Considered Hazardous

CATALOG NO.	PRODUCT NAME
106A-100	TOXI-GRAMS A-100
106B-100	TOXI-GRAMS B-100
108A-100	TOXI-DISC BLANK A-100
108B-100	TOXI-DISC BLANK B-100
112	DEVELOPING SOLUTION BOTTLE
113A	CHROMATOGRAM JAR W/CAP
113C	TOXI-RACK 3 SET
114A-2	TOXI-DIP A-2 REAGENT JAR
114A-3	TOXI-DIP A-3 REAGENT JAR
114A-H2O	TOXI-DIP H2O REAGENT JAR
114B-1	TOXI-DIP B-1 REAGENT JAR
114B-2	TOXI-DIP B-2 REAGENT JAR
114B-3	TOXI-DIP B-3 REAGENT JAR
115A	DIP A-1 SMALL STAND-OFF JAR
116	ULTRAVIOLET LIGHT
116-220	UV LIGHT (220 VOLTS)
118	ELECTRIC WARMER
118-220V	ELECTRIC WARMER (220 VOLTS)
119	STOCK BOTTLE
120A-100	TOXI-GRAMS BLANK A-100
120B-100	TOXI-GRAMS BLANK B-100
121	TOXI-DISCS A-1
122	TOXI-DISCS A-2
123	TOXI-DISCS A-3
124	TOXI-DISCS A-4
125	TOXI-DISCS B-1
126	TOXI-DISCS B-2
127	TOXI-DISCS B-3
128	TOXI-DISCS B-4
129	DISC CUSTOM 1 DRUG
129A	DISC CUSTOM 2 DRUGS
129B	DISC CUSTOM 3 DRUGS
129BE	SPEC STANDARD BE DISC
129BH	SPEC. STANDARD BH DISC
129LM	SPEC. STANDARD LM DISC
129MH	SPEC. STANDARD MH DISC
129MM	TOXI-DISC METHADONE STANDARD
129OP	OPIATE CONTROL STANDARD DISC
129QQ	SPEC. STANDARD QQ DISC
129SA	SPEC. STANDARD SMA DISC
131A	TOXI-DISC LIB. NO.1
131B	TOXI-DISC LIB. NO.2
131C	TOXI-DISC LIB. NO.3
131D	TOXI-DISC LIB. NO.4
131E	TOXI-DISC LIB. NO.5
131F	TOXI-DISC LIB. NO.6

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TOXI-LAB Products Not Considered Hazardous

CATALOG NO.	PRODUCT NAME
131G	TOXI-DISC LIB. NO.7
131H	TOXI-DISC LIB. NO.8
131J	TOXI-DISC LIB. NO.9
131K	TOXI-DISC LIB. NO.10
131L	TOXI-DISC LIB. NO.11
131M	TOXI-DISC LIB. NO.12
131N	TOXI-DISC LIBRARY II
140A1	CAP W/HANDLE
140A2	CAP W/HANDLE
140A3	CAP W/HANDLE
140B1	CAP W/HANDLE
140B2	CAP W/HANDLE
140B3	CAP W/HANDLE
140H2O	CAP W/HANDLE
151	MODULE I
152	DISP. CONCENTRATION CUPS
153	OMEGA 12
154	MODULE II
155	MODULE III
156	HEAT GUN
156-220V	HEAT GUN (220 VOLTS)
157	HEAT GUN HOLDER
162	CHROMATOGRAM DISC PUNCH
170A	TOXI-CONTROL NO. 1
170B	TOXI-CONTROL NO. 2
170C	TOXI-CONTROL NO.3
170E	TOXI-CONTROL NO.5
181AB	TOXI-LAB AB INSTRUCTION MANUAL
182A	COLOR DETECTION GUIDE A
182B	COLOR DETECTION GUIDE B
184	FORCEPS
186	DISC-HANDLING PINS
187A	TOXI-LAB A WORKSHEETS
187B	TOXI-LAB B WORKSHEETS
190L	MICRODISPENSER
191AB	TOXI-CONTROL NO. 19
193	LRG STAND-OFF/DESICCATING JAR
201	DRUG COMPENDIUM
201C	COMPENDIUM CARDS ONLY
201-I	TOXI-LAB DRUG COMPENDIUM INT'L
201U	COMPENDIUM UPDATE-1996
204B	TOXI-LAB BASIC WORKSHOP
205	PROFICIENCY TESTING SERVICE
207-2	TOXI-DISCS BLANK T
208-2	TOXI-DISC THC
208-3	TOXI-CONTROL NO. THC
209-100	TOXI-GRAMS BLANK THC

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TOXI-LAB Products Not Considered Hazardous

CATALOG NO.	PRODUCT NAME
210	THC DISPOSABLE GLASS TUBES
211	THC DEVELOPING SOLVENT BOTTLE
212-1	THC II WASH REAGENT 1 BOTTLE
212-2	THC II WASH REAGENT 2 BOTTLE
213	TOXI-DIP THC-1 REAGENT JAR
215	SMALL STAND-OFF JAR THC-2
237	UV LIGHT BULB ONLY 110V/220V
251	SPEC-C18-I EXTRACTION CARTRIDGE
252	THC II INSTRUCTION MANUAL
253	THC II WORKSHEETS (3 CHANNELS)
254	THC II PLUS WORKSHEETS (11)
255	TOXI-GRAMS THC II (11)
256	TOXI-GRAMS BLANK THC II (3)
258	HCL/THC2 TANK W/LID & STANDOFF
259	THC-1 REAGENT TANK & LID
260	CHROMATOGRAPHY TANK & LID
310	LTD OPIATE INITIAL SYSTEM
310-220	LTD OPIATE SYSTEM (220 VOLTS)
311-100	TOXI-GRAMS LTD BLANK OPIATE
312-20	TOXI-GRAMS LTD BLANK OPIATE
313-FM	TOXI-CONTROL LTD (FM)
314-HD	TOXI-DISC LTD (HD)
314-OP	TOXI-DISC LTD (OP)
315	TOXI-DISC LTD (BLANK O)
316	LTD OPIATE INSTRUCTION MANUAL
317	LTD OPIATE COLOR DETECT. GUIDE
319	LTD OPIATE STARTER PACK
320	SPEC LTD MP-3
321	LTD OPIATE I WORKSHEETS
322	LTD OPIATE II WORKSHEETS
324-OPI	TOXI-DISC LTD (OPI)
329	TOXI-DISCS LTD 1 DRUG
329A	TOXI-DISCS LTD 2 DRUGS
329B	TOXI-DISCS LTD 3 DRUGS
331	LTD OPIATE 1M ACETIC ACID BTL
332	LTD OPIATE WASH REAGENT BTL
333	LTD OPIATE ELUTION REAGENT BTL
334	LTD OPIATE I BOTTLE
335	LTD OPIATE II BOTTLE
405	TOXI-GRAMS BLANK A-PLUS (11)
408	TOXI-LAB CHROMATOGRAPHY TANK
409	CHROMATOGRAPHY TANK LID
410	TOXI-DIP REAGENT TANK
411	TOXI-REAGENT TANK LID
416	TOXI-DIP CHROMATOGRAM STAND
417	TOXI-GRAMS BLANK A-PLUS (19)
420A-11	TOXI A-PLUS CONV. PACK (11)

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TOXI-LAB Products Not Considered Hazardous

CATALOG NO.	PRODUCT NAME
420A-19	TOXI A-PLUS CONV. PACK (19)
420B-11	TOXI B-PLUS CONV. PACK (11)
421	TOXI-GRAMS BLANK B-PLUS(11)
424	TOXI-GRAMS PLUS (11) WORKSHEETS
425	TOXI-GRAMS PLUS (19) WORKSHEETS
474	HCL STAND-OFF JAR W/CAP
475	OPIATE HYDROLYSIS TUBES
476	THCII CHROMATOGRAPHY JAR & CAP
495	TRAINING BINDER
496	TRAINING PROGRAM I
497	TRAINING PROGRAM II
499	COMPLETE TRAINING PROGRAM
580	SPE VACUUM SYSTEM
580-I	SPE VACUUM SYSTEM - INT'L
581	SPE VACUUM MANIFOLD
582	VACUUM PUMP
583	VACUUM PUMP (INT'L)
584	VACUUM TRAP ASSEMBLY

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VARIAN

MATERIAL SAFETY DATA SHEET

MANUFACTURER	**Varian, Inc.**	NO.	**SD-009**
ADDRESS	**25200 Commercentre Drive**	DATE:	**09/13/02**
	Lake Forest, CA 92630-8810	Ed. Code:	**02140**
PHONE	**(949) 770-9381**	PREPARER:	N. Doumas
EMERGENCY PHONE	**(800) 424-9300-CHEMTREC USA**		
FAX	**(949) 770-0863**		

SECTION 1: MATERIAL IDENTIFICATION

Product Name: **TOXI•DIP™ THC-1 REAGENT CONCENTRATE**

SECTION 2: COMPOSITION

Hazardous Components	% (w/w)	CAS No.	NIOSH No.	*EEC No.*	*R Codes (Substance)*
4-Benzoylamino-2,5-diethoxy-benzenediazonium chloride hemi (zinc chloride) salt	Approx. dye content, 35%	5486-84-0	Not listed	*2395498*	*None*

Formula: $C_{17}H_{18}N_3O_3 \bullet \frac{1}{2} ZnCl_2$

Molecular Weight: 415.9

Chemical Names and Synonyms: **Fast Blue BB Salt**

SECTION 3: HAZARD IDENTIFICATION

Hazard Classification: Harmful. Possible mutagen.

European Chemical Directive Hazard Information:

Hazard Classification: *Harmful*

Danger Symbol:

Risk Phrases: *Harmful by inhalation, in contact with skin and if swallowed. Possible risk of irreversible effects. Possible mutagen.*

Safety phrases: *Do not breathe dust. Wear suitable protective clothing. Do not empty into drains.*

SECTION 4: FIRST AID

Skin/Eye Contact: Immediately flush with copious amounts of cold water for at least 15 minutes and call a physician.

Inhalation: Immediately move to fresh air and call a physician.

Ingestion: Wash out mouth with water, provided person is conscious, and call a physician immediately.

SECTION 5: FIREFIGHTING INFORMATION

Suitable Extinguishing Media: Film-forming agent, carbon dioxide, dry chemical, or halogenated agents.

Special Firefighting Procedures: Wear protective clothing and use approved respirator equipment.

Unusual Fire and Explosion Hazards: Emits toxic fumes (CO, CO_2, NO_x, HCl) under fire conditions.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Protection/Precautions: Wear protective clothing, gloves, and eye/face protection.

Spill/Clean-up Procedures: In case of solid spills, wear respirator or dust mask if necessary. Shovel or sweep up spilled dust and dispose of as organic hazardous waste. If diluted form (as TOXI•DIP THC-1 Reagent) is spilled, absorb spilled liquid in an absorbent material recommended for organic solvents and dispose of as hazardous waste.

RQ per 40 CFR Part 302: Not listed

SECTION 7: EXPOSURE CONTROL/PERSONAL PROTECTIVE EQUIPMENT

Hand Protection: For routine purposes, i.e., one-time use situations where protection from intermittent contact or splash is needed, disposable natural or synthetic latex or disposable nitrile gloves offer adequate protection. Gloves should be changed daily or after contamination.

For clean-up of large spills, use thicker gauge gloves (10 mil or more) made of neoprene, nitrile, or butyl rubber or PVC.

Respiratory Protection/Ventilation: Use laboratory fume hood or equivalent.

Protective Clothing: Wear laboratory jacket or coat.

Eye/Face Protection: Use OSHA approved safety glasses.

SECTION 8: HANDLING AND STORAGE

Recommended Storage Conditions: Store in freezer (<0°C), tightly closed, and if possible, desiccated. Protect from light.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Yellow powder
Odor:	Odorless
pH:	N/A
Boiling Point:	N/A
Melting Point:	157 °C
Flash Point:	N/A
Auto Ignition Temperatures:	N/A
Explosive Limits:	N/A
Vapor Pressure:	N/A
Density/Specific Gravity:	N/A
Solubility:	Soluble in organic solvents.

SECTION 10: STABILITY AND REACTIVITY DATA

Incompatibilities: Strong oxidizing agents, alkaline hydroxides.

Hazardous Decomposition Products: CO, CO_2, NO_x, HCl fumes

Stability: May discolor upon exposure to light.

SECTION 11: TOXICOLOGICAL INFORMATION (Health Hazards)

Toxicity: To the best of our knowledge, the chemical, physical and toxicological properties of Fast Blue BB salt have not been thoroughly investigated.

Effects of Overexposure:

Acute: Harmful if swallowed, inhaled, or absorbed through skin. May cause irritation.

Chronic: Possible mutagenic effects.

SECTION 12: ECOLOGICAL INFORMATION

Fast Blue BB Salt is not listed as a Marine Pollutant according to 49 CFR Part 172.

SECTION 13: DISPOSAL GUIDELINES

Dispose of an organic hazardous waste.

SECTION 14: TRANSPORT INFORMATION

Not listed in the DOT Hazardous Materials Table (49 CFR 173.101) or in the IATA List of Dangerous Goods (section 4.2).

SECTION 15: REGULATORY INFORMATION

The following standards and regulations were considered in the preparation of this MSDS:

49 CFR 171 - DOT (RSPA) Hazardous Material Regulation
IATA Dangerous Goods Regulations
29 CFR 1910 - Hazard Communication
European Council Directive 67/548/EEC
European Council Directive 88/379/EEC

This MSDS was prepared according to ANSI Z400.1-1993 *and 91/155/EEC* recommended formats.

SECTION 16: OTHER INFORMATION

TOXI•DIP THC-1 Reagent Concentrate is a component of the following:

Cat. No.	
261	TOXI•LAB® THC II Initial System
262	TOXI•LAB THC II-PLUS Initial System
208-1	TOXI•DIP THC-1 Reagent Concentrate (2 vials/pkg)

Italic print designates information specific to European Chemical Directives.

The information provided in this Material Safety Data Sheet has been compiled from our experience and data presented in various publications. Judgments as to the suitability of information herein for purchaser's purposes are necessarily the purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of the MSDS, Varian, Inc., extends no warranties, makes no representations and assumes no responsibility as to the adoption of safety precautions. We reserve the right to revise the MSDS as new technical information becomes available. The user has the responsibility to contact us to ensure that the MSDS is the latest edition issued.

VARIAN

MATERIAL SAFETY DATA SHEET

MANUFACTURER	**Varian, Inc.**	NO.	**SD-008**
ADDRESS	**25200 Commercentre Drive**	DATE:	**09/13/02**
	Lake Forest, CA 92630-8810	Ed. Code:	**02140**
PHONE	**(949) 770-9381**	PREPARER:	N. Doumas
EMERGENCY PHONE	**(800) 424-9300-CHEMTREC USA**		
FAX	**(949) 770-0863**		

SECTION 1: MATERIAL IDENTIFICATION

Product Name: **HYDROLYSIS REAGENT**

Chemical Family: Aqueous alkali solution

SECTION 2: COMPOSITION

Hazardous Components	% (w/v)	CAS No.	NIOSH No.	*EEC No.*	*R Codes (Substance)*
Potassium hydroxide	60-70	1310583	TT 2100000	*2151813*	*35*

Formula: KOH

Molecular Weight: 56.11

Chemical Names and Synonyms: **Potassium hydroxide,** potassium hydrate.

SECTION 3: HAZARD IDENTIFICATION

OSHA Hazard Classification: Corrosive (as defined in 29 CFR § 1910.1200)

European Chemical Directive Hazard Information:

Hazard Classification: *Corrosive (as defined in Council Directive 88/379/EEC)*

Danger Symbol:

Risk Phrases: *CAUSES SEVERE BURNS.*

Safety phrases: *Avoid contact with skin and eyes. In case of contact with eyes, rinse with plenty of water and seek medical advice. In case of skin contact, wash with plenty of water or mild boric acid solution. Wear suitable gloves and eye/face protection.*

SECTION 4: FIRST AID

Skin/Eye Contact: Immediately flush with copious amounts of cold water for at least 15 minutes and call a physician.

Inhalation: Immediately move to fresh air and call a physician.

Ingestion: Do not give emetics or induce vomiting. Give large amounts of water or milk and call a physician immediately.

SECTION 5: FIREFIGHTING INFORMATION

Suitable Extinguishing Media: Film-forming agent, carbon dioxide, dry chemical, or halogenated agents.

Special Firefighting Procedures: **Wear protective clothing and use approved respirator equipment.**

Unusual Fire and Explosion Hazards: None.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Protection/Precautions: Wear protective clothing, gloves, and eye/face protection.

Spill/Clean-up Procedures: Absorb spilled liquid in an absorbent material recommended for caustic liquids and dispose of as hazardous waste, or neutralize and flush with large amounts of water.

RQ per 40 CFR Part 302: (for potassium hydroxide) 1000 lb.

SECTION 7: EXPOSURE CONTROL/PERSONAL PROTECTIVE EQUIPMENT

Hand Protection: For routine purposes, i.e., one-time use situations where protection from intermittent contact or splash is needed, disposable natural or synthetic latex or disposable nitrile gloves offer adequate protection. Gloves should be changed daily or after contamination.

For clean-up of large spills, use thicker gauge gloves (10 mil or more) made of neoprene, nitrile, or butyl rubber or PVC.

Respiratory Protection/Ventilation: Use laboratory fume hood or equivalent.

Protective Clothing: Wear laboratory jacket or coat.

Eye/Face Protection: Use OSHA approved safety glasses.

SECTION 8: HANDLING AND STORAGE

Recommended Storage Conditions: Store away from acids, oxidizers or reducing agents in an approved safety cabinet.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless liquid
Odor:	Characteristic odor
pH:	>13
Boiling Point:	129 °C (264 °F)
Melting Point:	N/A
Flash Point:	None
Auto Ignition Temperatures:	No data
Explosive Limits:	N/A
Vapor Pressure:	No data
Density/Specific Gravity:	1.4
Solubility:	Miscible with water

SECTION 10: STABILITY AND REACTIVITY DATA

Incompatibilities: Acids, acid chlorides, acid anhydrides, aluminum and organic materials.

Hazardous Decomposition Products: Nature of decomposition products not known.

SECTION 11: TOXICOLOGICAL INFORMATION (Health Hazards)

Toxicity:	Potassium hydroxide solid:	LD50:	365 mg/Kg (oral, rat)
		Skin irritation:	50 mg/24 H SEV (skin, rabbit, human)
	Potassium hydroxide solution:	Skin irritation	5 mg/24 H MOD (skin, rabbit)

Effects of Overexposure:

Potassium hydroxide is a **very powerful skin and eye irritant!** It is corrosive to mucous membranes and body tissues. Ingestion may cause violent pain in throat or epigastrium, hematemesis, collapse. **DANGER! If ingested, stricture of esophagus may result AND MAY BE IMMEDIATELY FATAL!**

SECTION 12: ECOLOGICAL INFORMATION

Potassium hydroxide is not listed as a Marine Pollutant according to 49 CFR Part 172.

SECTION 13: DISPOSAL GUIDELINES

Small quantities can be diluted with large amounts of water, then neutralized with a weak acid such as dilute acetic acid. Check local regulations regarding sewer disposal. Dispose of large amounts as corrosive hazardous waste.

SECTION 14: TRANSPORT INFORMATION

DOT/IATA Hazard Class: Corrosive

UN No.: UN1814

Proper Shipping Name: Potassium hydroxide, solution

DOT/IATA Description: Potassium hydroxide, solution, 8, UN1814, II

When shipped from ANSYS, this product is packaged as an Exception for Small Quantities according to 49 CFR 173.4 or as a Dangerous Good in Excepted Quantity according to IATA Dangerous Goods Regulations, section 2.7.

SECTION 15: REGULATORY INFORMATION

The following standards and regulations were considered in the preparation of this MSDS:

49 CFR 171 - DOT (RSPA) Hazardous Material Regulation
IATA Dangerous Goods Regulations
29 CFR 1910 - Hazard Communication
European Council Directive 67/548/EEC
European Council Directive 88/379/EEC

This MSDS was prepared according to ANSI Z400.1-1993 *and 91/155/EEC* recommended formats.

SECTION 16: OTHER INFORMATION

Hydrolysis Reagent (Cat. No. 207-4) is a component of the following systems:

Cat. No.	
261	TOXI•LAB® THC II Initial System
262	TOXI•LAB THC II-PLUS Initial System

Italic print designates information specific to European Chemical Directives.

The information provided in this Material Safety Data Sheet has been compiled from our experience and data presented in various publications. Judgments as to the suitability of information herein for purchaser's purposes are necessarily the purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of the MSDS, Varian, Inc., extends no warranties, makes no representations and assumes no responsibility as to the adoption of safety precautions. We reserve the right to revise the MSDS as new technical information becomes available. The user has the responsibility to contact us to ensure that the MSDS is the latest edition issued.

VOC Compound	CAS #	Department	Quantity	
Carbon Tetrachloride	56-23-5			
Carbon Chloride				
Methane Tetrachloride				
Perchloromethane				
Tetrachloroethane				
Benziform				

VOC Compound	CAS #	Department	Quantity	
NDMA	62-75-0			
n-Nitrosodymethylamine				

VOC Compound	CAS #	Department	Quantity	
DCE (1,1 DCE)	75-35-4			
1,1 dichloroethylene				
Vinylidene chloride				

VOC Compound	CAS #	Department	Quantity	
TCE	79-01-6			
Trichloroethylene				
Ethylene Trichloride				
Algylen				
Penzinol				
Chlorilen				

VOC Compound	CAS #	Department	Quantity	
DCA (1,4 Dioxane)	107-06-2			
1,4 Diozane				
Dichloroethane				
Ethylene dichloride				
Freon 150				

VOC Compound	CAS #	Department	Quantity	
DCE (1,2 DCE)	540-59-0			
1,2 Dichloroethylene (Cis or Trans)				
Acetylene dichloride				
Cis-Acetylene dichloride				
Trans-Acetylene dichloride				
Dichloroethylene				

Salt Compound	CAS #	Department	Quantity	
Perchlorate				
Ammonium Perchlorate	7790-98-9			
Potassium Perchlorate	7778-74-7			
Magnesium Perchlorate	10034-81-8			
Sodium Perchlorate	7601-89-0			

VOC Compound	CAS #	Department	Quantity	
PCE	127-18-4			
Tetrachloroethylene				
Ethylene tetrachloride				
PERK				
PERC				
perchloroethylene				
Dowper				
Perclene				
Tetrachloroethylene				
Nema				
Tetracap				
Tetropil				
Didakene				
1,1,2,2-tetrachlorethylene				
Carbon dichloride				
Ankilostin				
Perchlor				
Antisol 1				
Fedal-un,PER				
perawin				
Perclene D				
Percosolve				
Perklone				
Persec				
Tetlen				
Tetraleno				
Tetralex				
Tetravec				
Tetroguer				
Tetrachloroethane				

Laboratory

Materials

with Listed

VOC's

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KAISER PERMANENTE

Regional Reference Laboratories
11668 Sherman Way, North Hollywood, CA 91605

Environmental Health and Safety
2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Container	Amount	Qty	VOC Content	Department	Test / Use	Amt / Month	Waste method	Period
Battery Terminal Cleaner & Protector Spray	McKay	Aerosol	13 oz	1	Tetrachloroethylene % not given	Lab Instrumentation	Instrument battery cleaner	1 oz.	Used in process	1993-present
CARBON TETRACHLORIDE	J.T. Baker	--	500 ml	0	Carbon tetrachloride 100%	Solutions	Lab test solution preparation	Not in use (< 50 ml when used previously)	Used in process	1993
CARBON TETRACHLORIDE 99.9+%, HPLC GRADE	Sigma	--	500ml	0	Carbon tetrachloride 100%	Solutions	Lab test solution preparation	Not in use (< 50 ml when used previously)	Used in process	1993
DICHLOROETHANE, 1,2-	Spectrum	--	500 ml	0	Ethylene dichloride 100%	Solutions	Lab test solution preparation	Not in use (< 100 ml when used previously)	Used in process	1993
DICHLOROETHANE, 1,2-	J.T. Baker	--	500 ml	0	Ethylene dichloride 90-100%	Solutions	Lab test solution preparation	Not in use (< 100 ml when used previously)	Used in process	1993
Dura-Life Belt Dressing	Terand Industries	Aerosol	12 oz	2	Trichloroethylene 30-50%	Engineering	Lubricant	0.5 oz	Used in process	1991-present
Electro-Safe	Waxie	Aerosol	20 oz	28	Perchloroethylene % not given	Lab Instrumentation	Cleaner	1 oz.	Used in process	1993-present
Electro-Safe Safety Solvent Degreaser	Waxie	Aerosol	20 oz	1	Perchloroethylene >1%, trichloroethylene >1%	Specimen Processing	Cleaner	1 oz.	Used in process	1997-present
MOLD RELEASE COMPOUND	Fisher Scientific	--	100 ml	0	Trichloroethylene 75%	Solutions	Lab test solution preparation	One time preparation	Used in process	1999
POTASSIUM PERCHLORATE	J.T. Baker	--	100 ml	0	Potassium perchlorate 90-100%	Solutions	Lab test solution preparation	Prepared 3 times for specialized test	Used in process	2000-2001
Sheila Shine	Sheila Shine	Metal	1 gal	1	Perchloroethylene % unknown	Construction	Cleaner & polishing metal	2 oz	Used in process	1991-present
Sheila Shine Polish and Sufrace Preservative	Sheila Shine	Metal	1gal	1	Perchloroethylene % not given	Virology	Cleaner & polishing metal	2 oz	Used in process	1993-present
TRICHLOROETHYLENE	J.T. Baker	--	500 ml	0	Trichloroethylene 100%	Solutions	Lab test solution preparation	One time preparation	Used in process	1994
UV Resistant Adhesive Self-Leveling Formula Industrial Strength	Eclectic Products	Metal tube	110 ml	1	Perchloroethylene 72%	Lab Instrumentation	Lab instrument repair	Infrequent use of 10 ml /use	Used in process	1993-present

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QUESTION #
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All Material Safety Data Sheets for chemicals and substances used in the Regional Reference Laboratory were evaluated for all Title 22 listed hazardous Metals including:

CA Title-22 Metals
EPA 6010B/7400

CAS #		Element	Reporting Limit	
			ug/L	mg/Kg
7440-36-0	Sb	Antimony	60	3
7440-38-2	As	Arsenic	5	0.25
7440-39-3	Ba	Barium	10	0.5
7440-41-7	Be	Beryllium	2	0.1
7440-43-9	Cd	Cadmium	5	0.25
7440-47-3	Cr	Chromium	10	0.5
7440-48-4	Co	Cobalt	20	1
7440-50-8	Cu	Copper	10	0.5
7439-92-1	Pb	Lead	3	0.15
7439-97-6	Hg	Mercury	0.2	0.02
7439-98-7	Mo	Molybdenum	20	1
7440-02-0	Ni	Nickel	20	1
7782-49-2	Se	Selenium	5	0.25
7440-22-4	Ag	Silver	5	0.25
7440-28-0	Tl	Thallium	5	0.25
7440-62-2	V	Vanadium	10	0.5
7440-66-6	Zn	Zinc	20	1

Laboratory

Materials

Containing

Title 22 Metals

KAISER PERMANENTE

Regional Reference Laboratories
11668 Sherman Way, North Hollywood, CA 91605

Environmental Health and Safety
2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
Lyphochek Quantitative Urine Control Level 1, Normal	Bio-Rad Laboratories	10 ml	1	% unknown: Arsenic compound (CAS# 10048-95-0), lead compound (CAS# 1314-41-6), mercury compound (CAS# 21908-53-2)	Special Chemistry	Used in lab test analyzer	2 ml	Captured in haz liquid flammable waste	1991-present
Lyphochek Quantitative Urine Control Level 1, Normal	Bio-Rad Laboratories	10 ml	36	% unknown: Arsenic compound (CAS# 10048-95-0), lead compound (CAS# 1314-41-6), mercury compound (CAS# 21908-53-2)	Special Chemistry	Used in lab test analyzer	10 ml	Captured in haz liquid flammable waste	1991-present
HSV Reagent Bivalent	Mar Dx Diagnostics	5mL	25	(Thimerosal 0.1%)	Virology	Preservative for test solution	60 ml	diluted waste sink disposal	1991-present
Aptima GC Analyte Specific Reagent Kit	Gen-Probe	10 ml/kit	20	2-Mercaptoethanesulfonate 5%	Virology	Lab test performed in Analyzer	8 kits	biohazardous waste	1991-present
Black Magic	Mitchell-Bradford Chemical/Hubbard Hall	1 L	1	Antimony compounds 5%, zinc oxide 10%	Lab Instrumentation	Cleaner	5 ml	Used in process	1995-present
Fox Valley's Power Paint Cartridge	Fox Valley Systems	18 oz	2	Antimony compounds, lead compounds	Construction	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Arsenic standard, 2000 ug/l in 0.1N HCl	Solutions	250 ml	4	Arsenic	Chem-Endo	Used as lab test control	100 ml	Used in process	1993-present
ARSENIC TRIOXIDE	MCB	1 lb	1	Arsenic compound	Solutions	Prepared as Lab test control	10 g	Used in process	1993-present
ARSENIC, 10MG/ML IN 15% HCL	NBS	60 ml	1	Arsenic compound	Solutions	Prepared as Lab test control	0.5 ml	Used in process	1993-present
Rust-Oleum Gloss Protective Enamel, Gloss Black	Rust-Oleum	16 oz	1	Arsenic compounds, beryllium compounds, cadmium compounds, chromium compounds, lead compounds, mercury compounds, nickel compounds	Construction	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Industrial Choice Multipurpose Spray Paint, Beige	Rust-Oleum	12 oz	1	Arsenic, beryllium, cadium, chromium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1993-present

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
Industrial Choice Sandable Primer, Glossy White	Rust-Oleum	12 oz	1	Arsenic, beryllium, cadium, chromium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1993-present
Stops Rust, Gloss Protective Enamel, Low VOC Smoke Gray	Rust-Oleum	12 oz	1	Arsenic, beryllium, cadmium, chromium (VI)-, lead, mercury, nickel compounds	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Stops Rust, Oil-Based Protective Enamel, Gloss Black	Rust-Oleum	946 ml	1	Arsenic, beryllium, cadmium, chromium (VI)-, lead, mercury, nickel compounds	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Farm & Equipment Long Lasting Enamel Finish, Ford Blue	Rust-Oleum	12 oz	1	Arsenic, beryllium, cadmium, chromium, lead, mercury compounds; antimony compound <5%	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1993-present
American Accents, Wildflower Blue Satin	Rust-Oleum	12 oz	1	Arsenic, beryllium, cadmium, chromium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1993-present
Gloss Protective Enamel, Low VOC Smoke Gray	Rust-Oleum	12 oz	5	Arsenic, beryllium, cadmium, chromium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1993-present

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
High Performance Epoxy, Black	Rust-Oleum	1 gal	1	Arsenic, beryllium, cadmium, chromium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous minor paint project	1 pt.	Used in process	1991-present
Industrial Choice Sandable Primer, White	Rust-Oleum	12 oz	2	Arsenic, beryllium, cadmium, cobalt, lead, mercury, nickel compounds; zinc phosphate <5%	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Painter's Touch Sandable Primer, White	Rust-Oleum	12 oz	7	Arsenic, beryllium, cadmium, lead, mercury compounds; zinc molybdate 1%, zinc phosphate 5%	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Automobile Primer, Dark Gray	Rust-Oleum	12 oz	2	Arsenic, beryllium, cadmium, lead, mercury compounds; zinc phosphate	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Painter's Touch Multi-Purpose Paint, Silver Metallic	Rust-Oleum	12 oz	1	Arsenic, cadmium, lead, mercury compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Painter's Touch Multi-Purpose Paint, Bronze Metallic	Rust-Oleum	12 oz	1	Arsenic, cadmium, lead, mercury compounds; copper compounds <10%	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Stops Rust, Rusty Metal Primer	Rust-Oleum	946 ml	1	Arsenic, cadmium, lead, mercury, and nickel compounds; strontium zinc phosphosilicate 5%	Engineering	miscellaneous touch up paint	10 ml	Used in process	1991-present

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
America's Finest, Flat White	Rust-Oleum	12 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Hard Hat Finish, Dark Machine Gray	Rust-Oleum	15 oz	3	Arsenic, cadmium, lead, mercury, nickel compounds	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Hard Hat Finish, Light Machine Gray	Rust-Oleum	15 oz	2	Arsenic, cadmium, lead, mercury, nickel compounds	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Hard Hat Finish, Safety Red	Rust-Oleum	15 oz	5	Arsenic, cadmium, lead, mercury, nickel compounds	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Hard Hat Marking Paint, Safety Red	Rust-Oleum	15 oz	3	Arsenic, cadmium, lead, mercury, nickel compounds	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
Quick Color Fast Drying All Purpose Spray Enamel, Gloss White	ROC Sales Inc.	12 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present
America's Finest Interior/Exterior, Almond	Rust-Oleum	12 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
America's Finest Interior/Exterior, Hunter Green	Rust-Oleum	12 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Hard Hat Industrial Coating Finish, Chestnut Brown	Rust-Oleum	15 oz	2	Arsenic, cadmium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Hard Hat Industrial Coating Finish, Light Machine Gray	Rust-Oleum	15 oz	10	Arsenic, cadmium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
Hard Hat Industrial Coating Finish, Safety Orange	Rust-Oleum	15 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Hard Hat Industrial Coating Finish, Safety Yellow	Rust-Oleum	15 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Quick Color Fast Drying All-Purpose Spray Enamel, Gloss Black	Roc-Sales Inc	10 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Quick Color Fast Drying All-Purpose Spray Enamel, Gloss White	Roc-Sales Inc	10 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Clean Metal Primer, White	Rust-Oleum	12 oz	1	Arsenic, cadmium, lead, mercury, nickel compounds; zinc molybdate 5%, zinc phosphate 5%	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
High Heat, Heat Resistant Green	Rust-Oleum	12 oz	1	Arsenic, cadmium, lead, nickel compounds; copper chromium black <5%	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Tri-Flow Superior Lubricant	Tri-Flow/ Sherwin Williams	59 ml	1	Barium 0.1%	Bacteriology	Lubrication of equipment	0.5 ml	Used in process	1993-present
BARIUM CHLORIDE, ANHYDROUS	J.T. Baker	1 lb	1	Barium compound	Solutions	Preparation of Kirby Bauer Std.	0.5 g	Used in process	1993-present
BARIUM CHLORIDE, DIHYDRATE	Sigma	100 g	1	Barium compound	Solutions	Preparation of Kirby Bauer Std.	0.5 g	Used in process	1993-present
BARIUM DIOXIDE	J.T. Baker	1 lb	1	Barium compound	Solutions	Prepared for off campus dept.	20 g	Used in process	one time prep.
BARIUM HYDROXIDE,	Spectrum	125 g	1	Barium compound	Solutions	Prepared for off campus dept.	20 g	Used in process	one time prep.
BARIUM HYDROXIDE,	Spectrum	5 lbs	1	Barium compound	Solutions	Prepared for off campus dept.	10 g	Used in process	1994-2005
BARIUM SULFATE	J.T. Baker	1 lb	2	Barium compound	Solutions	Prepared for off campus dept.	50 g	Used in process	one time prep.
Rust Pel 42	Mitchell-Bradford Chemical	16 oz.	1	Barium compound 10%	Lab Instrumentation	Cleaning & lubricating	1 oz.	Used in process	1993-present
Painter's Touch, Semi-Gloss White	Rust-Oleum	12 oz	1	Barium compounds	Construction	miscellaneous touch up paint	2 oz.	Used in process	1991-present
API Coryne	bioMerieux	kit reagent	1	Barium sulfate 0.016%	Bacteriology	Lab test performed in Analyzer	1/yr.	Used in process	1993-present
Krylon Interior/Exterior, Pearl Gray	Sherwin Williams	12 oz	1	Barium sulfate 1%	Construction	miscellaneous touch up paint	2 oz.	Used in process	1991-present
MasterMend Epoxy Metal Repair, Hardener and Resin	Duro/Loctite	0.5 oz	2	Barium sulfate 20%	Engineering	miscellaneous repairs	0.05 oz	Used in process	1991-present
Krylon Interior/Exterior Paint, Clover Green/Safety Green	Krylon/Sherwin Williams	12 oz	1	Barium sulfate 20%	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1991-present
JB Weld Hardener	JB Weld	10 oz	3	Barium sulfate 20%, zinc sulfide 5%	Lab Instrumentation	miscellaneous repairs	0.5 oz	Used in process	1991-present
JB Weld Hardener - Epoxy steel hardener	JB Weld	10 oz	0	Barium sulfate 20-30%	EVS	miscellaneous repairs	0.5 oz	Used in process	1991-present
JB Weld Hardener	JB Weld	20 oz	1	Barium sulfate 20-30%, zinc sulfide <5%	Engineering	miscellaneous repairs	1 oz.	Used in process	1991-present
Fluorescent pink	Rust-Oleum	11 oz	2	Cadmium, lead compounds	Lab Instrumentation	miscellaneous touch up paint	2 oz.	Used in process	1993-present
High Performance Epoxy, Activator	Rust-Oleum	1 gal	1	Cadmium, lead compounds	Lab Instrumentation	miscellaneous minor paint project	1 pt.	Used in process	1993-present
Deierite Anhydrous Calcium Sulfate	WA Hammond Drierite	5 lbs	1	Cobalt chloride 3%	Histology	moisture absorbent	100 g	Trash	1991-present
Deierite Anhydrous Calcium Sulfate	WA Hammond Drierite	5 lbs	1	Cobalt chloride 3%	Histology	moisture absorbent	100 g	Trash	1991-present
COBALT AMMONIUM SULFATE	MCB	4 oz	1	Cobalt compound	Solutions	Lab test preparation	One time preparation of 1 oz.	Used in process	one time prep.

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
COBALT CHLORIDE	MCB	1 Lb	1	Cobalt compound	Solutions	Lab test preparation	One time preparation of 1 oz.	Used in process	one time prep.
COBALT(II) SULFATE HEPTAHYDRATE	Sigma	100 g	1	Cobalt compound	Solutions	Lab test preparation	One time preparation of 20 g	Used in process	one time prep.
Conco-Pro, Deep Base 920	Conco Paints	120 oz	1	Cobalt compounds 0.2%	Engineering	miscellaneous touch up paint	2 oz.	Used in process	1991-present
Clear Bath Algicide	VWR Brand	8 oz	9	Copper carbonate <1%	Special Chemistry	water bath additive	2 oz.	Sink disposal	1993-present
Instrument Calibrating Kit	Artel, Inc.	reagent in kit	1	Copper chloride (II) dihydrate <0.15%	Virology	Lab analyzer reagent	1 drop	Used in process	1993-present
COPPER SHOT	MBC	1 Lb	1	Copper compound	Solutions	Lab test	10 g	Used in process	1993-present
COPPER, HEAVY FOIL	J.T. Baker	500 g	1	Copper compound	Solutions	Lab test	20 g	Used in process	1993-present
COPPER, LIGHT TURNINGS	J.T. Baker	500 g	1	Copper compound	Solutions	Lab Test	20 g	Used in process	1993-present
CUPRIC NITRATE,	J.T. Baker	5 lbs	1	Copper compound	Solutions	Lab Test	0.5 lb one time use	Used in process	one time prep.
CUPRIC SULFATE, ANHY.	J.T. Baker	1 Lb	1	Copper compound	Solutions	Preparation of copper sulfate sol.	8 g	Sent offsite	1997 only
American Accents, Silver Metallic Finish	Rust-Oleum	236 ml	1	Copper compounds 10%, zinc 5%	Lab Instrumentation	miscellaneous touch up paint	15 ml	Used in process	1993-present
Copper Spectrometric Solution	NIST	50 ml	0	Copper nitrate 3.0%, copper 1%	Special Chemistry	Preparation of standard for spectrophometer	20 ml	Used in process	one time prep.
Never-Seez	Bostik	1 lb	1	Copper powder 5%, zinc oxide 3%	Engineering	Repairs	30 g	Used in process	1991-present
Dichromate Cleaning Solution	Solutions	500 ml	1	Dichromate?%	Special Chemistry	Glassware cleaning	500 ml/yr.	Collected as haz waste	1993-present
LEAD ACETATE	J.T. Baker	1 Lb	1	Lead compound	Solutions	Preparation of standard	5 oz.	Used in process	1994
LEAD NITRATE	J.T. Baker	1 Lb	1	Lead compound	Solutions	Preparation of standard	5 oz.	Used in process	1994
LEAD NITRATE	EMS	100 g	1	Lead compound	Solutions	Preparation of standard	20 g.	Used in process	1995
Alex Plus, Dark Bronze	Dap	305 ml	3	Lead compounds	Construction	Repairs	50 ml	Used in process	1991-present
Alex Plus, White	Dap	10 oz	2	Lead compounds	Construction	Repairs	1 oz.	Used in process	1991-present
Dynaflex 230, Black	Dap	10 oz	1	Lead compounds	Construction	Repairs	1 oz.	Used in process	1991-present

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
Dynaflex 230, Gray	Dap	10 oz	2	Lead compounds	Construction	Repairs	1 oz.	Used in process	1991-present
KwikSeal Tub & Tile Adhesive Caulk, Bright White	Dap	162 ml	1	Lead compounds	Construction	Repairs	50 ml	Used in process	1991-present
Super Stripe Traffic Paint, Yellow	Fox Valley Systems	18 oz	1	Lead compounds	Engineering	Repairs	2 oz.	Used in process	1991-present
Mercury Standard., 3000 ug/L in 0.1N nitric acid	Solutions	250 ml	4	Mercury	Chem-Endo	Used in lab test analyzer	2 ml	Collected as haz waste	1993-present
PHENYLMERCURIC ACETATE	Kodack	25 g	4	Mercury compound	Solutions	Test preparation	2 g	Collected as haz waste	1993-present
THIMEROSAL	Sigma	500 g	1	Mercury compound	Solutions	preparation for lab test	0.01 g/l	Collected as haz waste	1993-present
Emit Amikacin Assay	Dade Behring	1 kit	0	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Amikacin Calibrators	Dade Behring	1 kit	0	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Antiepileptic Drug Calibrators	Dade Behring	3 ml	6	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Disopyramide Assay	Dade Behring	1 kit	0	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Disopyramide Calibrators	Dade Behring	1 kit	0	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Ethosuximide Assay	Dade Behring	3 ml, 13 ml	2	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Lidocaine Assay	Dade Behring	--	4	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Lidocaine Calibrators	Dade Behring	1 kit	0	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Methotrexate Assay	Dade Behring	--	2	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Primidone Assay	Dade Behring	3 ml, 13 ml	4	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Vancomycin Assay	Dade Behring	6 ml	0	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Emit Vancomycin Calibrator	Dade Behring	1 kit	0	Mercury compound (CAS# 54-64-8) 0.1-0.5%	Special Chemistry	Reagent in kit used for lab test	2 kits/yr.	Used in process	1995-present
Titan Gel ImmunoFix-Plus Kit	Helena Laboratories	Kit	0	Mercury compound (CAS# 54-64-8) 1%	Special Chemistry	Reagent in kit used for lab test	3 kits/yr.	Used in process	1995-present

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Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
SPIFE IFE-9 Kit	Helena Laboratories	--	1	Mercury compound (CAS# 54-64-8) 100%	Special Chemistry	Reagent in kit used for lab test	3 kits/yr.	Used in process	1995-present
SPIFE IFE-9 Kit	Helena Laboratories	--	5	Mercury compound (CAS# 54-64-8) 100%	Special Chemistry	Reagent in kit used for lab test	3 kits/yr.	Used in process	1995-present
SPIFE SPE Kit	Helena Laboratories	--	1	Mercury compound (CAS# 54-64-8) 100%	Special Chemistry	Reagent in kit used for lab test	3 kits/yr.	Used in process	1995-present
SPIFE SPE Kit	Helena Laboratories	--	3	Mercury compound (CAS# 54-64-8) 100%	Special Chemistry	Reagent in kit used for lab test	3 kits/yr.	Used in process	1995-present
Sulfacetamide sodium	Bausch & Lomb	15 ml	1	Mercury compounds	Lab Instrumentation	Used for instrument cleaning	3 drops	Used in process	1995-present
MERCAPTOETHANOL (2)	Sigma	100 ml	2	Mercury compounds	Solutions	Lab test preparation	10 ml	Used in process	one time prep.
MERCAPTOETHANOL (2)	Sigma	100 ml	1	Mercury compounds	Solutions	Prepared for off campus dept.	8 ml	Used in process	one time prep.
MERCURIC CHLORIDE	Mallinckrodt	500 g	5	Mercury compounds	Solutions	Lab test preparation	25 g/yr.	Collected as haz waste	1991-present
MERCURIC IODIDE	J.T. Baker	1 Lb	1	Mercury compounds	Solutions	One time preparation	40 g	Used in process	1996
MERCURIC NITRATE	J.T. Baker	0.25 Lb	1	Mercury compounds	Solutions	One time preparation	16 g	Collected as haz waste	1995
MERCURIC NITRATE	J.T. Baker	1 Lb	1	Mercury compounds	Solutions	One time preparation	3 oz.	Collected as haz waste	1993
MERCURIC NITRATE	J.T. Baker	125 g	1	Mercury compounds	Solutions	One time preparation	10 g	Collected as haz waste	1993
MERCURIC OXIDE	Mallinckrodt	500 g	1	Mercury compounds	Solutions	One time preparation	16 g	Collected as haz waste	1993
MERCURIC OXIDE, RED	Mallinckrodt	500 g	1	Mercury compounds	Solutions	Prepared 2 times	22 g	Collected as haz waste	1996
MERCURIC OXIDE, YELLOW	Merck	1 oz	1	Mercury compounds	Solutions	Prepared 2 times	22 g.	Collected as haz waste	
MERCURY TAMER	Mallinckrodt	250 g	1	Mercury compounds	Solutions	To absorb mercury spills	not used	Collected as haz waste	not used
MERCURY, 10MG/ML IN 10% HNO3	NBS	60 ml	1	Mercury compounds	Solutions	Used to prepare standard for lab test	0.02 ml	Collected as haz waste	1993-present
AMMONIUM MOLYBDATE	Mallinckrodt	2.5 kg	2	Molybdate compound	Solutions	One time preparation	125 g	Used in process	1994
AMMONIUM MOLYBDATE	J.T. Baker	5 lbs	1	Molybdate compound	Solutions	One time preparation	62 g	Used in process	1993
MOLYBDATE 3 REAGENT	Hach	500 ml	2	Molybdate compound	Solutions	Silica test	10 ml/wk	Used in process	1993-present
MOLYBDATE, SOLUTION	Sigma	100 ml	2	Molybdate compound	Solutions	Lab test preparation	0.5 ml	Used in process	1993-present
MOLYBDENUM POWDER	ALFA DIVISION	100 g	2	Molybdate compound	Solutions	Lab test preparation	1 g	Used in process	1993-present
MOLYBDENUM POWDER	Sigma	25 g	1	Molybdate compound	Solutions	One time preparation	6 g	Used in process	1994
MOLYBDENUM TRIOXIDE	Sigma	100 g	1	Molybdate compound	Solutions	One time preparation	14 g	Used in process	1995
MOLYBDENUM TRIOXIDE	J.T. Baker	500 g	2	Molybdate compound	Solutions	One time preparation	14 g	Used in process	1995
MOLYBDIC ACID, SODIUM SALT	Sigma	100 g	1	Molybdate compound	Solutions	One time preparation	24 g	Used in process	1994
PHOSPHOMOLYBDIC ACID	Sigma	500 g	3	Molybdate compound	Solutions	Lab test preparation	5 g	Used in process	1993-present

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2006 Chemical Inventory: All Departments

Sorted alphabetically

Material Name	Manufacturer	Amount	Qty	Title 22 Metals	Department	Test / Use	Amt / Mnth	Waste method	Period of Use
SODIUM MOLYBDATE	Mallinckrodt	500 g	2	Molybdate compound	Solutions	One time preparation	21 g	Used in process	1994
Beryllium Copper Casting Alloys	NGK Berylco	1 lb	0	Copper compounds	Bacteriology	Not in use		Collected as haz waste	
Zinc Formalin	Anatech Ltd	1 L	0	Zinc compounds	Histology	Not in use		Collected as haz waste	
Zinc Formalin	Fisher Scientific	1 L	0	Zinc compounds	Histology	Not in use		Collected as haz waste	
Z-5	Anatech Ltd	1 L	0	Mercury compounds	Histology	Not in use		Collected as haz waste	
Mercuric Nitrate Monohydrate	J.T. Baker	100 g	0	Mercury compounds	Histology	Not in use		Collected as haz waste	

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