REDACTED VERSION

2865
Stolthaven Houston, Inc

EPAHO106001463

9586112

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **7/7/2008**

Dear **Pete Forline**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2865

Expiration Date 7/7/2010

Generator: Stolthaven Houston, Inc.
Address: 15602 Jacintoport Blvd.
Houston, TX 77015

Waste Information

Name of Waste: Polyol drums
TCEQ Waste Code #: 00212071
Container Type:
Detailed Description of Process Generating Waste:
Unused product from line flush
Color: varies **Odor:** none **pH:** 4-9
Physical State:
Incompatibilities: oxidizers, acids
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

SRP

Avoid acids. Process as a sludge.

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Stolthaven Houston, Inc
Address: 15602 Jacintoport Blvd
City: Houston **State:** Texas **Zip:** 77015
Contact: Pete Forline **Title:**
Phone Number: 281-860-6806 **Fax Number:** Superintendent Wastewater Dept
24/hr Phone Number: 281-860-6800
US EPA ID No: TXD980748461
State ID No: 33722 **SIC Code:**

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Polyol Drums
Detailed Description of Process Generating Waste:

Unused product from line flush

Physical State: ☑ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: varies **Odor:** none

Specific Gravity (water=1): 1.05 **Density:** 8.8 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type: ☑ **Drum** ☐ **Tote** ☐ **Truck** ☐ **Other (explain)**

Frequency: ☐ **Weekly** ☑ **Monthly** ☐ **Yearly** ☐ **One-Time**
Quantity: 7

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: 00212071

Proper US DOT Shipping Name: Non-RCRA/Non-DOT Regulated Material

Class: NA **UN/NA:** NA **PG :** NA **RQ:** NA

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>200		4-9		NA	mg/l	NA	mg/l	0-5	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
>1500	mg/l	>1500	mg/l	NA	mg/l	NA	mg/l	NA	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Styrene-acrylonitrile copolymer in polyether polyol	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

standard ppe

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Pete Forline **Date:** Jun 20, 2008

Printed Name/Title: Pete Forline Wastewater Superintendent

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]
Date: 7-5-08 ☑ Approved ☐ Rejected
Approval Number: 2865

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$45/drum + $70/hr trans + fsc

2. Contamination Limit (maximum limit before surchages apply):

3. Surcharge Pricing:

4. Special Testing Requirements:

5. Treatment and Handling Protocol:

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

1. ~~Test for blendability with Black oil. If blendable, run chlor-d-tect, % water, flash & record.~~

8. Management for Product Recovered/Recycled (if applicable)

1. ~~Blend with black oil.~~ Avoid acids.
2. ~~If not blendable with black oil~~, send to Class 1 waste box, material is a liquid. Dispose of as a sludge.

Material Safety Data Sheet

SAFETY DATA SHEET

27/ 8/2004

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

DOW CHEMICAL COMPANY LTD
2 HEATHROW BOULEVARD
284 BATH ROAD
WEST DRAYTON
MIDDLESEX
UB7 0DQ

24 HOUR EMERGENCY RESPONSE NUMBER : +44-1553-761-251

For product information: +44-0208-917-5000

Product Name: VORALUX* HL 109 POLYOL

LV70: 68225 Issue Date: Aug. 04 Ref: SC017

Use of the substance/preparation
Component(s) for the manufacture of urethane polymers.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Styrene-acrylonitrile copolymer dispersion in polyether polyol	>99 %wt

3. HAZARDS IDENTIFICATION

This product is not classified as dangerous according to EC criteria.

4. FIRST-AID MEASURES

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

Inhalation
Move person to fresh air; if effects occur, consult a physician.

Skin Contact
Remove contaminated clothing. Wash skin with plenty of water.

* Trademark of The Dow Chemical Company.

Eye Contact
Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Consult medical personnel.

Ingestion
Seek medical attention immediately.

Note to Physician
No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Extinguishing Media
Water fog or fine spray. Carbon dioxide. Alcohol resistant foam. Dry chemical fire extinguishers.

Hazardous Combustion Products
Carbon oxides.
Nitrogen oxides.
Hydrogen cyanide.
Incomplete combustion may lead to the build-up of toxic pyrolysis products.

Protection of Firefighters
Wear positive-pressure self-contained breathing apparatus and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves).

Specific Fire or Explosion Hazards
Will support combustion.

Specific Methods of Firefighting
Fire debris must be disposed of in accordance with local regulations. Do not discharge extinguishing waters into streams, rivers and lakes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Wear adequate personal protective equipment, see Section 8, EXPOSURE CONTROLS/PERSONAL PROTECTION. Spills may cause very slippery surfaces.

Environmental Precautions
Dike to prevent contamination of ground and surface water, then transfer into closed containers. Recover if possible, or dispose of according to applicable regulations, see Section 13, DISPOSAL CONSIDERATIONS.

Methods of Cleaning Up
Spills should be contained by, and covered with large quantities of sand, earth or any other readily available absorbent material which is then brushed in vigorously to assist absorption. The mixture can then be collected into drums and removed for disposal. Wash area from residues with soap and water and rinse down. Contaminated water should be retained, not being allowed to flow into ground or surface water.

7. HANDLING AND STORAGE

Handling
Since polyols are handled together with diisocyanates, proper distinction between these two kinds of products is essential in order to avoid undesired mixing resulting in uncontrolled polymerisation.

Storage
Keep container tightly closed; product is hygroscopic.

- Storage Temperature and Shelf-Life
The recommended storage temperature is 15-35 deg.C. Shelf life is 24 months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
None established for the preparation.

Engineering Controls
Good general ventilation should be sufficient for most conditions.

Personal Protective Equipment

Respiratory Protection
For most conditions, no respiratory protection is needed; however, if handling at elevated temperature without sufficient ventilation or in presence of aerosols, use an approved air-purifying respirator.

Skin Protection
Wear gloves made of: Polyvinyl chloride ("PVC" or "vinyl"). Break-through time not established. Discard immediately after contamination. Wear clean, long-sleeved, body-covering clothing. After work and before eating, drinking or smoking wash and clean yourself carefully with soap and water. Contaminated clothing should be washed and/or dry cleaned before re-use.

Eye/Face Protection
Use safety glasses.

SAFETY DATA SHEET

27/ 8/2004
VORALUX* HL 109 POLYOL

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: viscous liquid
Colour	: white
Odour	: practically odourless
Specific gravity	: 1.05 (25/25 deg.C)
Water solubility	: negligible
Flash point	: >200 deg.C (ASTM D93)
Viscosity	: 1150 mPa.s (25 deg.C)

10. STABILITY AND REACTIVITY

Chemical Stability
The product is stable but hygroscopic.

Materials to Avoid
Acids. Oxidising agents.

Hazardous Decomposition Products
None under normal conditions of storage and use.

11. TOXICOLOGICAL INFORMATION

Assessment based on actual testing or on data for similar material(s).

Acute toxicity

Ingestion
The oral LD50 for rats is >2000 mg/kg.

Skin Contact
Essentially nonirritating to the skin.
The LD50 for skin absorption in rabbits is >2000 mg/kg.

Inhalation
Not expected to present a significant hazard due to physical properties.

Eye Contact
May cause slight temporary eye irritation. Corneal injury is unlikely.

12. ECOLOGICAL INFORMATION

Assessment largely or completely based on information about the major ingredient(s).

Mobility and Bioaccumulation Potential
No appreciable volatilization from water to air is expected.

Degradation
Material is expected to degrade only slowly in the environment.

Aquatic Toxicity
Despite the very slow biodegradation rate the product should not present an environmental hazard in the water/soil compartment.

13. DISPOSAL CONSIDERATIONS

Disposal
The generation of waste should be avoided or minimized wherever possible. Incineration under approved, controlled conditions using incinerators suitable or designed for the disposal of hazardous chemical wastes, is the preferred method for disposal.

14. TRANSPORT INFORMATION

Product is not classified for any mode of transportation.

15. REGULATORY INFORMATION

EC Classification and User Label Information

This product does not require classification according to the criteria of the Commission of the European Communities.

EINECS Status
Components of this product are not listed on EINECS because they are polymers or "no-longer polymers" marketed before the enforcement of the 7th Amendment to Directive 67/548/EEC. The constituent monomers, initiators and additives of this product are listed on EINECS.

16. OTHER INFORMATION

No other information.

The information herein is given in good faith and to the best of our knowledge but no warranty, express or implied, is made.

2867
Stolthaven Houston, Inc

EPAHO106001476

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **7/7/2008**

Dear **Pete Forline**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2867

Expiration Date 7/7/2010

Producer: Stolthaven Houston, Inc.
Address: 15602 Jacintoport Blvd.
Houston, TX 77015

Material / Product Information

Name of Material / Product Jet fuel
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Unused product from line flush

Color: varies **Odor:** none **pH:** 4-9
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP

Bulk light ends load. Sales to sell in bulk as it comes in.

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

40

SECTION 1: Generator Information

Company: Stolthaven Houston, Inc
Address: 15602 Jacintoport Blvd
City: Houston **State:** Texas **Zip:** 77015
Contact: Pete Forline **Title:**
Phone Number: 281-860-6806 **Fax Number:** Superintendent Wastewater Dept
24/hr Phone Number: 281-860-6800
US EPA ID No: TXD980748461
State ID No: 33722 **SIC Code:**

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Jet Fuel
Detailed Description of Process Generating Waste:

Unused product from line flush

Physical State: ☑ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: varies **Odor:** none

Specific Gravity (water=1): 0.75 - 0.80 **Density:** 6.7 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type: ☑ **Drum** ☐ **Tote** ☐ **Truck** ☐ **Other (explain)**

Frequency: ☐ **Weekly** ☑ **Monthly** ☐ **Yearly** ☐ **One-Time**
Quantity: 1

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: product

Proper US DOT Shipping Name: ~~Non-RCRA/Non-DOT Regulated Material~~ Fuel, Aviation, turbine Engine

Class: ~~NA~~ 3 **UN/NA:** ~~NA~~ 1863 **PG:** ~~NA~~ III **RQ:** ~~NA~~ 1000

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
100 °F		4-9		NA	mg/l	NA	mg/l	0-5	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
>1500	mg/l	>1500	mg/l	NA	mg/l	NA	mg/l	NA	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Jet Fuel	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

standard ppe

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory*: *Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory*: *Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☐ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Pete Forline **Date:** Jun 20, 2008

Printed Name/Title: Pete Forline Wastewater Superintendent

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer:
Date: 7-5-08 ☑ Approved ☐ Rejected
Approval Number: 2867

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

trans olny: $70/hr trans + fsc

2. Contamination Limit (maximum limit before surchages apply):

3. Surcharge Pricing:

4. Special Testing Requirements:

5. Treatment and Handling Protocol:

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

1. Notify product sales when it comes in.
2. If they cannot directly sell, run flash, chlor-d-tect, % water

8. Management for Product Recovered/Recycled (if applicable)

1. ~~Resell directly as jet fuel~~
2. ~~Blend with appropriate stream: light ends or black oil, depending on market rates~~

Bulk light ends load, sell in bulk as it comes in

NFPA 704 (Section 16)

AMERADA HESS CORPORATION

MATERIAL SAFETY DATA SHEET

Jet Fuel A / A-1 **MSDS No. 0325**

1. CHEMICAL PRODUCT and COMPANY INFORMATION (rev. Feb-98)

Amerada Hess Corporation
1 Hess Plaza
Woodbridge, NJ 07095-0961

EMERGENCY TELEPHONE NUMBER (24 hrs): **CHEMTREC (800) 424-9300**
COMPANY CONTACT (business hours): Corporate Safety (732) 750-6000

SYNONYMS: Aviation Kerosene; Aviation Turbine Fuel Jet A; Jet A; Jet A –1; JP – 1; Military Aviation Jet Fuel JP –1

See Section 16 for abbreviations and acronyms.

2. COMPOSITION and INFORMATION ON INGREDIENTS (rev. Sep-98)

INGREDIENT NAME	EXPOSURE LIMITS	CONCENTRATION PERCENT BY WEIGHT
Kerosene CAS NUMBER: 8008-20-6	OSHA PEL-TWA: 5 mg/m^3 as mineral oil mist ACGIH TLV-TWA: 1997 NOIC - 100 mg/m^3, skin, A3	100
Naphthalene CAS NUMBER: 91-20-3	OSHA PEL: 10 ppm ACGIH TLV-TWA/STEL: 10 / 15 ppm, A4	Typically 0.04

A complex combination of hydrocarbons including naphthenes, paraffins, and aromatics.

3. HAZARDS IDENTIFICATION (rev. Feb-98; Tox-98)

EMERGENCY OVERVIEW
CAUTION!
OSHA/NFPA COMBUSTIBLE LIQUID - SLIGHT TO MODERATE IRRITANT - EFFECTS CENTRAL NERVOUS SYSTEM - HARMFUL OR FATAL IF SWALLOWED

Moderate fire hazard. Avoid breathing vapors or mists. May cause dizziness and drowsiness. May cause eye irritation and skin irritation (rash). Long-term, repeated exposure may cause skin cancer.

If ingested, do NOT induce vomiting, as this may cause chemical pneumonia (fluid in the lungs).

EYES
Contact with liquid or vapor may cause mild irritation.

SKIN
May cause skin irritation with prolonged or repeated contact. Practically non-toxic if absorbed following acute (single) exposure. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

INGESTION
The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

INHALATION
Excessive exposure may cause irritation to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

EPAHO106001484

WARNING: the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

CHRONIC EFFECTS and CARCINOGENICITY
Similar products produced skin cancer and systemic toxicity in laboratory animals following repeated applications. The significance of these results to human exposures has not been determined - see Section 11 Toxicological Information.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Irritation from skin exposure may aggravate existing open wounds, skin disorders, and dermatitis (rash).

4. FIRST AID MEASURES (rev. Feb-98; Tox-98)

EYES
In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

SKIN
Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops.

INGESTION
DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

INHALATION
Remove person to fresh air. If person is not breathing, ensure an open airway and provide artificial respiration If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

5. FIRE FIGHTING MEASURES (rev. Jan-94)

FLAMMABLE PROPERTIES:

FLASH POINT:	> 100 °F (38 °C) TCC
AUTOIGNITION POINT:	410 °F (210 °C)
OSHA/NFPA FLAMMABILITY CLASS:	2 (COMBUSTIBLE) (see Section 14 for transportation classification)
LOWER EXPLOSIVE LIMIT (%):	0.7
UPPER EXPLOSIVE LIMIT (%):	5.0

FIRE AND EXPLOSION HAZARDS
Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

EXTINGUISHING MEDIA
SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO2, water spray, fire fighting foam, or Halon.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

FIRE FIGHTING INSTRUCTIONS
Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment.

EPAHO106001485

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

See Section 16 for the NFPA 704 Hazard Rating.

6. ACCIDENTAL RELEASE MEASURES (rev. Feb-98)

ACTIVATE FACILITY'S SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

7. HANDLING and STORAGE (rev. Feb-98)

HANDLING PRECAUTIONS

Handle as a combustible liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents.

STORAGE PRECAUTIONS

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

WORK/HYGIENIC PRACTICES

Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product

EPAHO106001486

from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

8. EXPOSURE CONTROLS and PERSONAL PROTECTION (rev. Feb-98)

ENGINEERING CONTROLS
Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

EYE/FACE PROTECTION
Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

SKIN PROTECTION
Gloves constructed of nitrile, neoprene, or PVC are recommended. Chemical protective clothing such as of E.I. DuPont Tychem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

RESPIRATORY PROTECTION
A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

9. PHYSICAL and CHEMICAL PROPERTIES (rev. Feb-98)

APPEARANCE
Pale yellow to water-white liquid

ODOR
Characteristic petroleum distillate odor

BASIC PHYSICAL PROPERTIES

BOILING RANGE:	280 to 572 °F (140 to 300 °C)
VAPOR PRESSURE:	0.029 psia @ 100 °F (38 °C)
VAPOR DENSITY (air = 1):	AP 4.5
SPECIFIC GRAVITY (H_2O = 1):	0.75 - 0.80
PERCENT VOLATILES:	100 %
EVAPORATION RATE:	Slow; varies with conditions
SOLUBILITY (H_2O):	Negligible

10. STABILITY and REACTIVITY (rev. Jan-94)

STABILITY: Stable. Hazardous polymerization will not occur.

CONDITIONS TO AVOID
Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

INCOMPATIBLE MATERIALS
Keep away from strong oxidizers such as nitric and sulfuric acids.

HAZARDOUS DECOMPOSITION PRODUCTS
Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

EPAHO106001487

11. TOXICOLOGICAL PROPERTIES (rev. Feb-98; Tox-98)

ACUTE TOXICITY

Acute dermal LD50 (rabbits): > 5 g/kg
Acute oral LD50 (rats): > 25 g/kg
Primary dermal irritation: mildly irritating (rabbits)
Primary eye irritation: mildly irritating (rabbits)
Guinea pig sensitization: negative

CHRONIC EFFECTS AND CARCINOGENICITY

Carcinogenicity: OSHA: NO IARC: NO NTP: NO ACGIH: 1997 NOIC: A3
Dermal carcinogenicity: positive (mice)

Studies have shown that similar products produce skin cancer or skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation.

12. ECOLOGICAL INFORMATION (rev. Feb-98)

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

13. DISPOSAL CONSIDERATIONS (rev. Feb-98)

Consult federal, state and local waste regulations to determine appropriate disposal options.

14. TRANSPORTATION INFORMATION (rev. Feb-98)

PROPER SHIPPING NAME:	Fuel, Aviation, Turbine Engine
HAZARD CLASS and PACKING GROUP:	3, PG III
DOT IDENTIFICATION NUMBER:	UN 1863
DOT SHIPPING LABEL:	FLAMMABLE LIQUID

May be reclassified for transportation as a COMBUSTIBLE LIQUID under conditions of DOT 49 CFR 173.120(b)(2).

15. REGULATORY INFORMATION (rev. Sep-98)

U.S. FEDERAL, STATE, and LOCAL REGULATORY INFORMATION

This product and its constituents listed herein are on the EPA TSCA Inventory. Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal, state and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level. Consult those regulations applicable to your facility/operation.

CLEAN WATER ACT (OIL SPILLS)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow-up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

EPAHO106001488

SARA SECTION 311/312 - HAZARD CLASSES

ACUTE HEALTH	CHRONIC HEALTH	FIRE	SUDDEN RELEASE OF PRESSURE	REACTIVE
X	X	X	--	--

SARA 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 of 40 CFR 372.

CANADIAN REGULATORY INFORMATION (WHMIS)

Class B, Division 3 (Combustible Liquid) Class D, Division 2, Subdivision B (Toxic by other means)

16. OTHER INFORMATION (rev. Sep-98)

NFPA® HAZARD RATING	HEALTH:	0	Negligible
	FIRE:	2	Moderate
	REACTIVITY:	0	Negligible
HMIS® HAZARD RATING	HEALTH:	1 *	Slight
	FIRE:	2	Moderate
	REACTIVITY:	0	Negligible
			* CHRONIC

SUPERSEDES MSDS DATED: 02/18/98

ABBREVIATIONS:

AP = Approximately < = Less than > = Greater than
N/A = Not Applicable N/D = Not Determined ppm = parts per million

ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists
AIHA	American Industrial Hygiene Association
ANSI	American National Standards Institute (212) 642-4900
API	American Petroleum Institute (202) 682-8000
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation [General Info: (800) 467-4922]
EPA	U.S. Environmental Protection Agency
HMIS	Hazardous Materials Information System
IARC	International Agency For Research On Cancer
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association (617) 770-3000
NIOSH	National Institute of Occupational Safety and Health
NOIC	Notice of Intended Change (proposed change to ACGIH TLV)
NTP	National Toxicology Program
OPA	Oil Pollution Act of 1990
OSHA	U.S. Occupational Safety & Health Administration
PEL	Permissible Exposure Limit (OSHA)
RCRA	Resource Conservation and Recovery Act
REL	Recommended Exposure Limit (NIOSH)
SARA	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	Self-Contained Breathing Apparatus
SPCC	Spill Prevention, Control, and Countermeasures
STEL	Short-Term Exposure Limit (generally 15 minutes)
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average (8 hr.)
WEEL	Workplace Environmental Exposure Level (AIHA)
WHMIS	Workplace Hazardous Materials Information System (Canada)

EPAHO106001489

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

2868
Delta Chemical ~~Inc~~

EPAHO106001491

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **7/7/2008**

Dear **Tommy Boyette**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2868

Expiration Date 7/7/2010

Generator: Delta Chemical
Address: 334 Tidal Road
Deer Park, TX 77536

Waste Information

Name of Waste: Viscoplex
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Off spec viscoplex
Color: yellow **Odor:** ester like **pH:** 3-11
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP
Management for product not specific for sale of product
OK

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

4B

SECTION 1: Material Producer Information

Company:	Delta Chemical		
Address:	334 Tidal Road		
City, State, Zip:	Deer Park, TX 77536		
Contact:	Tommy Boyette	**Title:**	
Phone No:	(281) 680-4108	**Fax No:**	(281)479-9842
24/hr Phone:			
U.S. EPA I.D. No:	TXR000029199		
State I.D.	85855	**SIC Code:**	

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Material / Product

Name of Material / Product: Viscoplex
Detailed Description of Process Generating or Producing the Material / Product: Off Spec Viscoplex

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: yellow **Odor:** Ester - Like

Specific Gravity (water=1): .908 **Density:** 7.5 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type:	☐	**Drum**	☐	**Tote**	☒	**Truck**	☐ **Other (explain)**
Container Size:		____		____		5500	____

Frequency: ☐ **Weekly** ☐ **Monthly** ☐ **Quarterly** ☒ **Yearly**
Number of Units (containers): 2 **Other:** ____

Proper U.S. DOT Shipping Name: Recycle
Non- RCRA Non DOT Regulated Material

Class: na **UN/NA:** na **PG:** na **RQ:** na

EPAHO106001493

Flash Point >200	**pH** 3-11	**N/A**	N/A	**Solids** 0-2%
Oil&Grease namg/l	**TOC** namg/l	**Zinc** namg/l	**Copper** namg/l	**Nickel** namg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Acryllic Coopolymer	30-60	%
Neutral Oil	40-70	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
—— MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Oxidizers

SECTION 8: Material Producer's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: n/a **Date:** 7-7-08

Printed Name/Title: _____

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: [signature]	
Date: 7-5-08 Approved Rejected	
Approval Number: 2868	

EPAHO106001494

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$0.10/gal (Pay Delta). No trans charge

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001495

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

Keep retain sample - Make sure material is all good oil.

8. **Management for Product Recovered/Recycled (if applicable):**

If selling in Bulk: dehead drums and scrape to remove any possible material from sides of drums. Bulk in 150 container. Shred drums once they have been scraped.

EPAHO106001496

2100 Viscosity @ 100°C

Material Safety Data Sheet

Status: 08/31/2005
Version : 1
VISCOPLEX® 6-850

degussa.

1. Chemical Product and Company Identification

VISCOPLEX® 6-850

RohMax USA, LP
723 Electronic Drive
Horsham, PA 19044-2228

Telephone No.	215-706-0843
Toll Free No.	1-888-876-4629
Regulatory Specialist	215-706-5840
Spill, Leak, Fire, Exposure or Accident	
CHEMTREC®	1-800-424-9300
Outside USA	703-527-3887
Collect calls accepted	
CANUTEC	613-996-6666 (RohMax Canada, Inc.)

RohMax Additives GmbH
Kirschenallee
D-64293 Darmstadt

Telephone no.	+49 6151/18-09
Emergency Tel.	+49 6151/18-4342
	+33 3 88 73 60 00 (RohMax France)

Product Use: Viscosity index improver

2. Composition/Information on Ingredients

This material is classified as hazardous under OSHA regulations.

Ingredients	CAS Reg. No.	Weight %
acrylic copolymer	trade secret	30 - 60
neutral oil	64742-55-8	40 - 70

NJTSR # RX000394

See Section 8, Exposure Controls/Personal Protection

3. Hazards Identification

Emergency Overview

Color:	yellow
Appearance:	viscous
Odor:	ester-like

MAY CAUSE EYE AND SKIN IRRITATION

Primary Routes of Exposure
Skin contact
Eye contact

Potential Health Effects

Eye contact
May cause eye irritation.

Skin contact
May cause skin irritation.

Potential Environmental Effects
See SECTION 12, Ecological Information

4. First Aid Measures

First Aid Procedures

Inhalation
Move subject to fresh air.

Eye contact
Flush eyes with plenty of water for at least 15 minutes. Consult a physician if irritation persists.

Skin contact
Wash off immediately with soap and water. Remove contaminated clothing and shoes. Obtain medical attention if irritation develops. Wash clothing before reuse.

Ingestion
Get immediate medical attention. Only induce vomiting if directed by a physician. Never give anything by mouth to an unconscious person.

Note to Physician
Product is soluble in medical white oil (BP) and/or paraffin oil.

5. Fire-Fighting Measures

Flash point	> 120 °C	(ASTM D 3278)
	> 248 °F	(ASTM D 3278)
Ignition temperature	not available	
Spontaneous ignition	not available	
Lower explosion limit	not available	
Upper explosion limit	not available	
OSHA Flammability Classification	none	

Unusual Hazards
Combustion generates toxic fumes of the following: carbon oxides

Extinguishing Media
Use the following extinguishing media when fighting fires involving this material:
water spray (fog), CO2, dry chemicals, and/or extinguishing agents appropriate for the surrounding fire

Fire Fighting Procedures
Wear self-contained breathing apparatus (pressure-demand MSHA/NIOSH approved or equivalent). Wear full protective gear.

6. Accidental Release Measures

Personal Protection

Wear a MSHA/NIOSH approved (or equivalent) half-mask, air-purifying respirator. Wear compatible, chemically resistant gloves. Wear protective clothing, including splash proof goggles and rubber overshoes. Take off immediately all contaminated clothing.

For further Information see SECTION 8, Exposure Controls/Personal Protection.

Procedures

Floor may be slippery; use care to avoid falling. Contain spills immediately with inert materials (e.g. sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. Handling and Storage

Handling

Keep container tightly closed. Wash thoroughly after handling. Avoid formation of oil mist. Ensure the area is well ventilated.

Storage

Keep container tightly closed and store in a well ventilated area. Do not store at temperatures above 100 °C / 212 °F. Low temperature storage can cause handling problems. Viscosity of material will increase.

8. Exposure Controls/Personal Protection

Exposure Limit Information

OIL MIST, MINERAL - see Remark/s

Occupational Exposure Values			Remark(s):
ACGIH TLV-TWA		5 mg/m3	(mist)
ACGIH TLV-STEL		10 mg/m3	(mist)
OSHA PEL-TWA		5 mg/m3	CAS No. 8012-95-1
OSHA PEL-STEL			not established
OEL-TWA (Alberta)		5 mg/m3	CAS No. 8012-95-1
OEL-STEL (Alberta)		10 mg/m3	CAS No. 8012-95-1
OEL-TWA (British Columbia)		290 mg/m3	CAS No. 8052-41-3
OEL-STEL (British Columbia)		580 mg/m3	CAS No. 8052-41-3
OEL-TWA (Ontario)		5 mg/m3	CAS No. 8012-95-1
OEL-STEL (Ontario)		10 mg/m3	CAS No. 8012-95-1
OEL-TWA (Quebec)		5 mg/m3	CAS No. 8012-95-1
OEL-STEL (Quebec)		10 mg/m3	CAS No. 8012-95-1
OEL-TWA (Mexico)		5 mg/m3	CAS No. 8012-95-1
OEL-STEL (Mexico)		10 mg/m3	CAS No. 8012-95-1

Engineering Controls (Ventilation)
None required under normal operating conditions.

Personal Protective Equipment (PPE)

Respiratory protection

A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Where misting may occur, wear a MSHA/NIOSH approved (or equivalent) half mask, dust/mist air purifying respirator.

Eye Protection
Use safety glasses (ANSI Z87.1 or approved equivalent).

Skin Protection
Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.

Hand Protection
The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection:
nitrile rubber gloves
Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough.

Other Protective Equipment
Facilities storing or utilizing this material should be equipped with an eyewash facility.

9. Physical and Chemical Properties

Appearance	yellow
Physical state	viscous
Odor	ester-like
Flash point	> 120 °C (ASTM D 3278)
	> 248 °F (ASTM D 3278)
pH-value	not applicable
Viscosity (kinematic)	1,175 mm2/s at 100 °C / 212 °F (ASTM D445)
Specific gravity (water = 1)	0.908 g/cm3 at 15 °C / 59 °F
Vapor density (air = 1)	> 1 at 20 °C / 68 °F
Vapor pressure	< 1 hPa (= *mbar*) at 20 °C / 68 °F
Pourpoint	not available
Boiling Temperature	not available
Solubility in water	virtually insoluble
Evaporation rate	not available
Odor threshold	not available
Further information	none

Density = 7.573 lb/gal

See Section 5, Fire Fighting Measures

10. Stability and Reactivity

Stability
No decomposition when used as directed.

Conditions To Avoid
This material is considered stable under specified conditions of storage, shipment and/or use.

Incompatibility With Other Materials
Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products
methacrylates (in case of thermal decomposition), When overheated: oil vapours

Hazardous Polymerization
Product will not undergo polymerization.

11. Toxicological Information

Acute Oral Toxicity

LD50 rat (analogy)	> 2,000 mg/kg

Acute Dermal Toxicity

LD50 rabbit (analogy)	> 2,000 mg/kg

Irritant Effect on the Skin
If contact with skin is prolonged and/or frequent, irritations cannot be excluded. The product has a degreasing effect on skin.

Irritant Effect on the Eyes
Contact with the eyes may cause irritation.

Further Information on Toxicology
There are no toxicological data available for the product as such.
Avoid contact with the skin and eyes and inhalation of the product vapours.

12. Ecological Information

Information on elimination (persistence and degradability)

Ecotoxicological effect

Further Information on Ecology
Do not allow to enter soil, waterways or waste water

13. Disposal Considerations

Procedures
Incinerate liquid and contaminated solids in accordance with local, state and federal regulations.

14. Transport Information

Further information
Not subject to the regulations on dangerous goods.

15. Regulatory Information

INVENTORY INFORMATION

EC EINECS	listed
USA TSCA	listed
Canada DSL	listed
Australia AICS	listed
Japan MITI	listed
South Korea ECL	listed
Philippines PICCS	listed
China	listed

US FEDERAL REGULATORY INFORMATION

Component / CASRN	TPQ [lbs]	CERCLA RQ [lbs] (40CFR302.4)	SARA 302 List of EHS	SARA 313 (40CFR372)	TSCA 12b
NONE					

COMPONENT CLASSIFICATION UNDER CLEAN AIR ACT SECTION 112

Component / CASRN	Weight %	HAP	EHAP
NONE			

PRODUCT CLASSIFICATION UNDER SECTION 311/312 OF SARA (40CFR370)

ACUTE,

US STATE REGULATORY INFORMATION

Component / CASRN	New Jersey RTK	Pennsylvania RTK	Massachusetts RTK	California Proposition 65 Cancer	California Proposition 65 Reproductive
acrylic copolymer	NO	NO	NO	NO	NO
neutral oil / 64741-88-4	NO	NO	NO	NO	NO
neutral oil / 64741-89-5	NO	NO	YES	NO	NO
neutral oil / 64742-55-8	NO	NO	YES	NO	NO

CANADIAN REGULATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation and the MSDS contains all information required by the Controlled Products Regulations.

This is a controlled product.
WHMIS: D2B

Component / CASRN	NPRI
NONE	

16. Other Information

	Health	Flammability	Reactivity
HMIS-Ratings	1	1	0
NFPA-Ratings	1	1	0

HMIS Hazard Ratings	NFPA Hazard Ratings
4 = severe	4 = extreme
3 = serious	3 = high
2 = moderate	2 = moderate
1 = slight	1 = slight
0 = minimal	0 = insignificant
* = chronic health hazard	N = no NFPA rating

This MSDS was prepared in accordance with ANSI Z400.1-1998.

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Date of printing : 03/26/2007

2869
Stolthaven Houston, Inc

EPAHO106001504

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **7/7/2008**

Dear **Pete Forline**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2869

Expiration Date 7/7/2010

Generator: Stolthaven Houston, Inc.
Address: 15602 Jacintoport Blvd.
Houston, TX 77015

Waste Information

Name of Waste: Cleaning compounds
TCEQ Waste Code #: 00212071
Container Type:
Detailed Description of Process Generating Waste:
Unused product from tank cleaning
Color: varies **Odor:** alcohol **pH:** 4-9
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP

Process to light ends.

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

AP

SECTION 1: Generator Information

Company: Stolthaven Houston, Inc
Address: 15602 Jacintoport Blvd
City: Houston **State:** Texas **Zip:** 77015
Contact: Pete Forline **Title:**
Phone Number: 281-860-6806 **Fax Number:** Superintendent Wastewater Dept
24/hr Phone Number: 281-860-6800
US EPA ID No: TXD980748461
State ID No: 33722 **SIC Code:**

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Cleaning Compounds
Detailed Description of Process Generating Waste:

Unused product from tank cleaning

Physical State: ☑ **Liquid** ☐ **Sludge** ☐ **Powder**
☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: varies **Odor:** alcohol

Specific Gravity (water=1): 0.8-1 **Density:** 6.7-8.34 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type: ☑ **Drum** ☐ **Tote** ☐ **Truck** ☐ **Other (explain)**

Frequency: ☐ **Weekly** ☑ **Monthly** ☐ **Yearly** ☐ **One-Time**
Quantity: 2

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: 00212071

Proper US DOT Shipping Name: Non-RCRA/Non-DOT Regulated Material

Class: NA **UN/NA:** NA **PG :** NA **RQ:** NA

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
141	4-9	NA mg/l	NA mg/l	0-5 %

Oil & Grease	TOC	Zinc	Copper	Nickel
>1500 mg/l	>1500 mg/l	NA mg/l	NA mg/l	NA mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Blend of alcohols	90-100	%
Water	0-10	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

standard ppe

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Pete Fortine **Date:** Jun 20, 2008

Printed Name/Title: Pete Fortine Wastewater Superintendent

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer:
Date: 7-9-08 ☑ Approved ☐ Rejected
Approval Number: 2869

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$45/drum + $70/hr trans + fsc

2. Contamination Limit (maximum limit before surchages apply):

3. Surcharge Pricing:

4. Special Testing Requirements:

Test pH and Flash

5. Treatment and Handling Protocol:

Mix w/ light ends.

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

1. Test for blendability ~~with Black oil.~~ If blendable, run chlor-d-tect, % water, flash & record.
   Cannot go to black oil.

8. Management for Product Recovered/Recycled (if applicable)

1. ~~Blend with black oil.~~
2. ~~If not blendable with black~~ oil, ~~send to Class 1 waste box~~.

(thick)

RC Cleaning Okay KNK 4/15/02

Ecogreen
Oleochemicals

Material Safety Data Sheet

1. PRODUCT IDENTIFICATION

Trade Name : ECOROL 26
Synonyms : Lauryl Myristyl Alcohol.

2. COMPOSITION / INGREDIENTS

Composition : Blend of 1-dodecanol (lauryl), 1-tetradecanol (myristyl) and 1-hexadecanol (cetyl)
CAS No. : 68855-56-1
EINECS No. : 272-490-6

3. HAZARDS IDENTIFICATION

Hazard description : Xi irritant.
Information concerning particulars hazards for human and environment :
R 36/38 Irritating to eyes and skin.

4. FIRST-AID MEASURES

After inhalation : In case of unconsciousness place patient stably in side position for transportation.
After skin contact : Immediately wash with water and soap and rinse thoroughly.
After eye contact : Rinse opened eye for several minutes under running water. If symptoms persist consults doctor.
After swallowing : If symptoms persist consults doctor.

5. FIRE FIGHTING MEASURE

Suitable extinguisher agents :
CO_2 powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire extinguishing methods suitable to surrounding conditions.
For safety reason unsuitable extinguishing agents : Water with full jet.
Protective equipment : No special measures required.

6. ACCIDENTAL RELEASE MEASURES

Person-related safety precaution : Not required.
Measures for environmental protection : No special measures required.
Measure for cleaning/collecting : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

7. HANDLING AND STORAGE

Handling
Information for safe handling : No special measures required.
Information about fire-and explosion protection : No special measures required.

Storage
Requirements to be met by storerooms and receptacles : No special requirements.
Suitable material for recepacles and pipes: steel or stainless steel.
Information about storage in one common storage facility : Not required
Further information about storage conditions : Keep receptacle tightly sealed.
Maximum storage conditions : 40°C.

8. EXPOSURE CONTROLS AND PORSONAL PROTECTION

Additional information about design of technical facilities :
No further data; see item 7.
Ingredients with limit values that require monitoring at the workplace :
Not required.
Additional information : The lists valid during the making were used as basis.

Personal protective equipment
General protective and hygienic measures :
Keep away from foodstuff, beverages an feed.
Immediately remove all soiled and contaminated clothing.
Wash hand before breaks and at the end of work.
Avoid contact with the eyes and skin.
Respiratory protection : Not required
Protective of hands : Protective gloves
Eyes protection : Tightly sealed goggles

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: Fluid / liquid
Colour	: Colourless
Odour	: Specific Type

Change in condition
- Melting Point/melting range, °C : Undetermined
- Boiling Point/boiling range, °C : 268 - 311
- Setting temperature/range, °C : 18 - 23

Flash Point (PM), °C	: 141
Danger of explosion	: Product does not present an explosion hazard
Vapor Pressure at 38°C, hPa	: < 1
Density at 20°C, g/cm^3	: 0.83
Solubility in/miscibility with water	: Insoluble, Not miscible or difficult to mix.
Viscosity, kinematic at 38°C	: 14.3 mm ^{2}/s

EPAHO106001513

10. STABILITY AND REACTIVITY

Thermal decomposition / conditions to be avoided :
No decomposition if used according to specifications.
Dangerous reactions : Reacts with strong acids and oxidizing agents.
Dangerous decomposition products : No dangerous decomposition products known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD/LC50 values relevant for classification :
LD50, Oral > 2000 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.

12. ECOLOGICAL INFORMATION

General notes :
Water hazard class 1 (German Regulation) (Self-assessment) : Slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13. DISPOSAL

Product
Recommendation : Must not disposed together with household garbage. Do not allow product to reach sewage system.

Uncleaned packaging
Recommendation : Disposal must made according to official regulations.

14. TRANSPORT INFORMATION

Land trasport \ADR/RID (cross-border)
ADR/RID class : -

Transport/Additional Information: Not dangerous according to the above specifications.

EPAHO106001514

2870
Mosaic Crop Nutriton, LLC

EPAHO106001515

7L
T.35
LAB
8-4-09

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **7/7/2008**

Dear **LC Bledsoe**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2870

Expiration Date 7/7/2010

Generator: Mosaic Crop Nutrition, LLC
Address: 16150 Peninsula
Houston, TX 77015

Waste Information

Name of Waste: Nonhaz wastewater
TCEQ Waste Code #: CESQ2051
Container Type:
Detailed Description of Process Generating Waste:
Spilled grain and oil from a barge
Color: varies **Odor:** oil **pH:** 9
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GR

JB

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Mosaic Crop Nutrition
Address: 16150 Peninsula
City: Houston State: TX Zip: 77015
Contact: TED Fisher Title: Production Supervisor
Phone Number: 281-452-4326 (24) Fax Number: 281-457-3[illegible]
24/hr Phone Number: 281-602-3279
US EPA ID No: TXCES96
State ID No: CES96 SIC Code:

SECTION 2: Billing Information - ☐ Same as Above

Company: Triple B Industrial Services, LLC
Address: PO Box 752564
City: Houston State: TX Zip: 77275
Contact: L.C. Bledsoe Title:
Phone Number: 713 946 0002 Fax Number: 713-946-0130

SECTION 3: General Description of the Waste

Name of Waste: Non HAZ Waste Water
Detailed Description of Process Generating Waste:

Spilled grain and oil from barge

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Varies Odor: Oil

Specific Gravity (water=1): 1 Density: 8 lbs/gal

Does this material contain any total phenolic compounds? ☑ Yes ☐ No 5 ppm

Does this material contain any para substituted phenolic compounds? ☐ Yes ☐ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☑ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☐ Yearly ☑ One-Time
Quantity: 5000 gallons

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: LESQ2051

Proper US DOT Shipping Name: Non RCRA non DOT Regulated waste water
Class: — **UN/NA:** — **PG:** — **RQ:** —

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>200		9		0	mg/l	0	mg/l	55	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
<5	mg/l	<2000	mg/l	<1	mg/l	<.1	mg/l	<1.5	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Water	90-100	%
oil	0-5	%
Debris	0-5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

STANDARD

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. LAB memo 08-114

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

None known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☑ YES ☐ NO
If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory*: *Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory*: *Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☑ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory **: *Subpart C***

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☑ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☑ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: L.C. Blodgett **Date:** 7-1-2008

Printed Name/Title: L C Blodgett

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Hayes
Date: 7-7-08 ☑ Approved ☐ Rejected
Approval Number: 2870

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$.12/gal

2. Contamination Limit (maximum limit before surchages apply):

Standard per rate Disposal Sheet

3. Surcharge Pricing:

Standard per rate disposal sheet

4. Special Testing Requirements:

TOC, phenol, pH, FLASH, % solids

5. Treatment and Handling Protocol:

Take any to oil phase to the oil tank, take bottom water to waste water.

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

Oils Subcategory discharge

8. Management for Product Recovered/Recycled (if applicable)

black oil if any

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Joy Baker
Cc: Kelli Lofton, Gary Peterson, Prabhaker

Date: 07/01/08

From: Miles Root

Lab Memo: 08-119

Subject: **Triple B Industrial Evaluation 0708-03**

A sample of water from Triple B Industrial has been evaluated for potential processing at CES. This sample is evaluation 0708-03 and is water from the cleanup of spilled grain and oil from a barge. Overall, this water is acceptable for processing at CES and has no real issues.

This sample has a pH of 9 and contains no solids. There are no oils visible in this sample. The water treats fairly easily but takes a little longer to phase separate out since the solids that are produced are finer looking than typical. This will not be a processing issue. The treated water has low phenols, low TOC and acceptable metals. A minimum charge of $.12/gallon should be acceptable for us to make money on this stream. Joy indicates there may be a total of one load of this material available.

The table below summarizes the test results.

Triple B Industrial Eval 0708-03	
Neat Sample	
pH	9
Solids, vol%	0
Oils, vol%	0
Treated	
TOC, ppm	2000
Phenols, ppm	5
Metals, ppm	
Cd	0.051
Cr	0.068
Cu	0.094
Ni	1.491
Zn	0.672

2843
IDM

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2843

Expiration Date 6/17/2010

Generator: IDM
Address: 11616 Galayoa Road
Houston, TX 77086

Waste Information

Name of Waste: Antifreeze
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
punctured drum/unused/overpack
Color: clear **Odor:** mild **pH:** 8-9.5
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
na

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

No PFI

Material must process to System 1. there is not a market that CES has for this glycol.

DB

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company:	IDM				
Address:	11616 GALAYDA				
City:	HOUSTON	**State:**	TX	**Zip:**	77086
Contact:	WILLIAM CORDOBA		**Title:**	SAFETY COORDINATOR	
Phone Number:	281-447-9000		**Fax Number:**	281-931-0499	
24/hr Phone Number:	281-702-1145				
US EPA ID No:	TXCESQG				
State ID No:	CESQG		**SIC Code:**		

SECTION 2: Billing Information - ☐ **Same as Above**

Company:	CKG SERVICES, LLC				
Address:	10707 HONEA EGYPT ROAD				
City:	MONTGOMERY	**State:**	TX	**Zip:**	77316
Contact:	ZAC MCKAUGHAN		**Title:**	PRESIDENT	
Phone Number:	281-541-4829		**Fax Number:**	936-756-1226	

SECTION 3: General Description of the Waste

Name of Waste: ANTIFREEZE

Detailed Description of Process Generating Waste: PUNCTURED DRUM/UNUSED/OVERPACK

Physical State: ☑ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: CLEAR **Odor:** MILD

Specific Gravity (water=1): 1.110-1.125 **Density:** 8 ~~18~~ lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" If your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type: ☑ **Drum** ☐ **Tote** ☐ **Truck** ☐ **Other (explain)**

Frequency: ☐ **Weekly** ☐ **Monthly** ☐ **Yearly** ☑ **One-Time**

Quantity: 1

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: Recycle

Proper US DOT Shipping Name: NON HAZ/NON DOT/NON RCRA
Class: _____ **UN/NA:** _____ **PG:** _____ **RQ:** _____

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>160	8.0-9.5	0 mg/l	0 mg/l	0-1 %

Oil & Grease	TOC	Zinc	Copper	Nickel
0 mg/l	0 mg/l	0 mg/l	0 mg/l	0 mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
1,2 ETHANEDIOL	47-51	%
DIETHLYENE GLYCOL	0-3	%
ADDITIVES AND INHIBITORS	<3	%
DYE	<1	%
WATER	BALANCE	

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

NA

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package.

MSDA

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

None Known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	0
TCLP Volatiles:	0
TCLP Semi-Volatiles:	0
Reactivity:	0
Corrosivity:	0
Ignitability:	0

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6/6/2006

Printed Name/Title: ZAC MCKAUGHAN/PRESIDENT

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 6-17-08 ☑ Approved ☐ Rejected

Approval Number: 2843

IOM

MATERIAL SAFETY DATA SHEET

Star brite
50/50 Pre-Diluted
150,000 Mile Anti-freeze

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product/Chemical Name: 30800, 308G55
Product Description: Ethylene Glycol Based Antifreeze, Precharged 50/50 Pre-Diluted, Fully-formulated Extended Life Antifreeze (Concentrate) with Dye
Chemical Family: Inhibited Ethylene Glycol and Water Solution
CAS Registry: Mixture
Manufacturer: **Emergency Phone:** 800-424-9300 or 703-527-3887 - Chemtrec
Star Brite Distributing, Inc.
4041 S. W. 47 AVENUE
Ft. Lauderdale, FL 33314
Information: 954-587-6280
Date: October 26, 2006 Replaces: June 8, 2006

SECTION 2 – COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO	WT. RANGE %	EXPOSURE LIMIT
*1,2-ethanediol (Ethylene Glycol)	107-21-1	47-51%	50ppm Ceiling-ACGIH
Diethlyene glycol	11-46-6	0-3%	None established
Proprietary Additives and Inhibitors	Not applicable	<3%	Not applicable
Dye	Not applicable	<1%	Not applicable
Water	7732-18-5	Balance	Not applicable

*Hazardous according to OSHA (1910.1200) or one or more state Right-to-Know lists.

SECTION 3 – HAZARDOUS IDENTIFICATION

Health: 2
Flammability: 0
Reactivity: 0
Special: None
0 = minimal 1= slight 2=moderate 3= serious 4= severe

HMIS
H #2
F #0
R #0
PPE†
†Sec. 8

Route(s) of Entry
Inhalation: Yes
Skin: Yes
Ingestion: Yes
Eyes: Yes
Target Organs: Kidneys and Liver

Effects of overexposure:
Acute: Eyes: May cause minimal irritation, experienced as temporary discomfort.

punctured drum unused - overpack

EPAHO106001530

Effects of overexposure (con't)		
Acute:	Skin:	Brief contact is not irritating. Prolonged contact, as with clothing wetted with material may cause defatting of skin or irritation, seen as local redness with possible mild discomfort. Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact.
	Inhalation:	Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness. Prolonged or repeated overexposure may result in the absorption of potentially harmful amounts of material.
	Ingestion:	Contains ethylene glycol and/or diethylene glycol, which are toxic when swallowed. A lethal dose for an adult is 1-2 ml per kilogram, or about 4 ounces (one-half cup). Symptoms include headache, weakness, confusion, dizziness, staggering, slurred speech, loss of concentration, faintness, nausea and vomiting, increased heart rate, decreased blood pressure, difficulty breathing and seeing, pulmonary edema, unconsciousness, convulsions, collapse and coma. Symptoms may be delayed. Decreased urine output and kidney failure may also occur. Severe poisoning may cause death. Aspiration may occur during swallowing or vomiting, resulting in lung damage.
Sensitization Properties:	Unknown	
Signs and Symptoms of Exposure:	See above "Effects of Overexposure."	
Medical Conditions Generally Aggravated by Long-Term Exposure:	Repeated overexposure may aggravate existing kidney disease.	
Chronic Effects:	Repeated ingestion may cause kidney damage	
Carcinogenicity		
NTP:	Not listed	
IARC Monographs:	Not listed	
OSHA Regulations:	Not listed	
ACGIH	Not listed	

SECTION 4 – FIRST AID MEASURES

Emergency and First Aid Procedures:	**Eye contact:**	Immediately flush with large quantities of water for at least 15 minutes and
	Skin contact:	Remove excess with cloth or paper towel. Wash thoroughly with soap and water. If irritation persists, get medical attention.
	Ingestion:	Immediately contact a physician, poison control center or emergency treatment center. DO NOT induce vomiting. Aspiration Hazard: Product may be inhaled into lungs if vomited.
	Inhalation:	Remove to fresh air. Restore and/or support breathing as required. Keep victim warm and at rest.
Note to Physicians:	Treat symptomatically	
Special Precautions/Procedures:	None known	

EPAHO106001531

SECTION 5 – FIRE-FIGHTING MEASURES

Unusual Fire Fighting procedures:	None known
Flash Point:	None at this dilution
Flash Point Method:	Not applicable
Burning Rate:	Not applicable
Autoignition Temperature:	Not determined
Flammable limits in air (% by volume):	
LEL:	Not determined
UEL:	Not determined
Flammability Classification:	Does not burn, but can emit fumes in a fire.
Extinguishing Media:	For large fires use alcohol-type or all purpose foam. For small fires use water spray, dry chemical, foam or carbon dioxide to extinguish.
Unusual Fire or Explosion Hazards:	None known
Fire-Fighting Instructions;	According to the National Fire Protection Association Guide, use water spray, dry chemical, foam or carbon dioxide. A direct stream of water or foam may cause frothing. Use water spray to disperse the vapors and to provide protection for person attempting to stop the leak.
Fire-Fighting Equipment:	Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full faceplece operated in pressure-demand or positive-pressure mode.
Unusual Fire Fighting procedures:	Not required
Other Information:	Products evolved when subjected to heat or combustion: carbon monoxide and carbon dioxide may be formed on burning in limited air supply.

NFPA

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill/Leak Procedures:	Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.
Regulatory Requirements:	If more than 10,539 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for petroleum exemption (CERCLA Section 101 (14)).

SECTION 7 – HANDLING AND STORAGE

Handling Precautions	Minimum feasible handling temperatures should be maintained. Empty containers contain product residue and may be dangerous.
Storage Requirements:	Periods of exposure to high temperature should be minimized. Water contamination should be avoided. Keep containers away from open flames. ETHYLENE GLYCOL BASE – Ethylene Glycol has produced birth defects in rodents. Do not store near food.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation:	Normal to maintain exposure below TLV
Permissible Concentrations in Air:	10mg/cubic meter for particulate mist; 50 ppm (125 mg/cubic meter) ceiling limit for Ethylene Glycol (ACGIH 1984-1985)
Respiratory Protection:	Supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces. Use a NIOSH approved organic vapor and gas respirator with mist filter.
Eye Protection:	Chemical type goggles or face shield optional.
Protective Clothing/Equipment:	Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact. Wear protective eyeglasses or chemical safety goggles.
Work and Hygienic Practices:	Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin areas several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly.

EPAHO106001532

Safety Stations:	Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.
Contaminated Equipment:	Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.
Comments:	Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor:	Clear liquid with a mild odor (may contain dye in one of several colors).
Boiling Point (760 mm Hg):	228°F
Freezing/Melting Point:	-34°F
Specific Gravity (water =1):	1.110-1.125
Vapor Density (air =1):	1.8
Percent Volatile by Volume:	NIL
Evaporation Rate (butyl acetate =1):	Not determined
Solubility in Water (% by wt):	100%
Vapor Pressure (at 20°C):	18mm Hg.
pH:	8.0-9.5
Viscosity SUS @ 100°F	Less than 20cst

SECTION 10 – STABILITY AND REACTIVITY

Stability:	Stable
Polymerization:	Does not occur
Chemical Incompatibilities:	Normally unreactive, but try to avoid strong oxidizers, strong acids and strong bases at high temperatures.
Conditions to Avoid:	High temperatures above 413°C (775°F) (product can decompose)
Hazardous decomposition products:	Carbon dioxide, carbon monoxide

SECTION 11 – TOXICOLOGICAL INFORMATION

Eye Effects:	Believed to cause slight eye irritation.
Skin Effects:	Can be irritating to skin upon prolonged contact
Acute Inhalation Effects:	Drowsiness, narcosis, and unconsciousness possible upon exposure to high concentrations in poorly ventilated confined spaces.
Acute Oral Effects:	Can cause irritation to mouth, throat and stomach
Chronic Effects:	Liver and kidney damage in a 2 year rat feeding study using 1-2% Ethylene Glycol. Oral administration of very high doses of Ethylene Glycol produced birth defects in laboratory animals.
Carcinogenicity:	Neither product nor its ingredients are listed by IARC, NTD or OSHA
Mutagenicity:	Not mutagenic
Teratogenicity:	Not Teratogenic

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:	Oral: Believed to be 4.7-8.5 g/kg (rat); moderately toxic Inhalation: Not determined. Dermal: Believed to be 1-3 g/kg (rabbit); slightly toxic Other: Not determined. Irritation Index/Estimation of Irritation (Species) Skin: Believed to be 0.5-1.8/8.0 (rabbit); slightly irritating Eyes: Believed to be 15-25/110 (rabbit); slightly irritating
Soil Absorption/Mobility:	Not determined

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Dispose of waste in accordance with Federal, State and Local laws.
Disposal Regulatory Requirements:	Under RCRA, it is the responsibility of the user of products to determine, at the time of disposal, whether product meets RCRA criteria for hazardous waste. This is because product uses transformations, mixture, processes, etc., may render the resulting material hazardous (see waste classification)
Container Cleaning and Disposal:	Containers should be cleaned of residual product before disposal, and disposed of in accordance with all applicable laws and regulations.

SECTION 14 – TRANSPORT INFORMATION

Call for Information

SECTION 15 – REGULATORY INFORMATION

EPA Regulations

RCRA Hazardous Waste Number and RCRA Hazardous Waste Classification:	Unused product is not classified as a hazardous waste by RCRA criteria
CERCLA Hazardous Substance and CERCLA Reportable Quantity:	Does not contain any ingredients listed as a CERCLA hazardous substance.
SARA Toxic Chemical and SARA EHS:	Contains following substance which is listed in Title III: Ethylene Glycol. SARA 313 Information: SARA Hazard Category: An immediate health hazard A delayed health hazard

OSHA Regulations:

State Regulations

Other: All components listed on both TSCA (USA) and DSL (Canada) inventory.

CANADIAN WHMIS CLASSIFICATION: Class D, Division 2, Subdivision B (A toxic material causing other chronic effects)

EPAHO106001534

SECTION 16 – OTHER INFORMATION

Prepared By:
Additional Hazard Rating Systems: None
Disclaimer: THE INFORMATION GIVEN HEREIN IS GIVEN IN GOOD FAITH AND FROM SOURCES WE BELIEVE RELIABLE. BUT NO WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS IS MADE.

The conditions or methods of handling, storage, use and disposal of this product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of this product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not apply.

CONSULT Company listed in Section 1. FOR FURTHER INFORMATION.

EPAHO106001535

28844
Montgomery County

EPAHO106001536

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2844

Expiration Date 6/17/2010

Generator: Montgomery County Household Facility
Address: 1130 Pruitt Road
Spring, TX 77380

Waste Information

Name of Waste: Diesel and oil mixture
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Diesel used to flush oil out of road equipment, devoid of chlorinated solvents
Color: dark **Odor:** petroleum **pH:** neutal
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
None

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

OK

Attn: Dan

CES Environmental Services, Inc.

4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company:	MONTGOMERY COUNTY				
Address:	1122 PRUITT ROAD				
City:	SPRING	**State:**	TX	**Zip:**	77380
Contact:	BECKY COTTINGTON		**Title:**	COORDINATOR	
Phone Number:	281-367-7283		**Fax Number:**	281-298-7321	
24/hr Phone Number:	21-541-4829				
US EPA ID No:	TXCESQ				
State ID No:	CESQG		**SIC Code:**		

SECTION 2: Billing Information - ☐ **Same as Above**

Company:	CKG SERVICES				
Address:	10707 HONEA EGYPT ROAD				
City:	MONTGOMERY	**State:**	TX	**Zip:**	77316
Contact:	ZAC MCKAUGHAN		**Title:**	PRESIDENT	
Phone Number:	936-483-3662		**Fax Number:**	936-756-1226	

SECTION 3: General Description of the Waste

Name of Waste: DIESEL AND OIL MIXTURE

Detailed Description of Process Generating Waste: DIESEL USED TO FLUSH OIL OUT OF ROAD devoid of EQUIPMENT, devoid of chlorinated solvents

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: DARK **Odor:** PETROLEUM

Specific Gravity (water=1): NA .7 **Density:** NA 7 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☑ Monthly ☐ Yearly ☐ One-Time

Quantity: 10 DRUMS

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: RECYCLED

Proper US DOT Shipping Name: ~~NON REGULATED/NON DOT/NON HAZ~~ Diesel, NA 1993, Combustible liquid
Class: ~~NA~~ 3 UN/NA: ~~NA~~ 1993 PG: ~~NA~~ III RQ: NA

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
~~NA~~ >200		~~NA~~ Neutral		NA	mg/l	NA	mg/l	NA	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
7150 ~~NA~~	mg/l	~~NA~~ 7500	mg/l	NA	mg/l	NA	mg/l	NA	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
DIESEL/OIL MIXTURE	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

NONE

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. NA

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

~~None Known~~ oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	0
TCLP Volatiles:	0
TCLP Semi-Volatiles:	0
Reactivity:	0
Corrosivity:	0
Ignitability:	0

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6-12-08

Printed Name/Title: ZAC MCKAUGHAN / PRESIDENT

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 6-17-08 ☐ Approved ☐ Rejected

Approval Number: 2844

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$15/dm

2. **Contamination Limits (maximum limit before surcharges apply):**

Any Water, or flunk Chlor-d-tect

3. **Surcharge Pricing:**

None, reject if not compatible with other lightends.

4. **Special Testing Requirements:**

Make sure in the lab this material is compatible and mixes well with the material you are mixing it into (CES Light Ends)

5. **Treatment and Handling Protocol:**

Scub fumes. ~~Put into CES Light Ends~~. Process to Black Oil.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001541

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

% Water, Flash, Density, Ash

8. **Management for Product Recovered/Recycled (if applicable):**

Sell with CES Light Ends

EPAHO106001542

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Dan Bowman
Cc: Keli Lofton, Gary Peterson, Prabhaker

Date: 06/11/08

From: Miles Root

Lab Memo: 08-104

Subject: **CKG Magnolia County Evaluation 0608-26**

A sample of oil from CKG, Magnolia County has been tested for sales potential. This sample is evaluation 0608-26 and its source is from accumulated oil returns. This material looks and smells just like used motor oil. It does contain some sludge that would need to be processed out in our centrifuge, but that will not be an issue. The chlor-d-tect is 1700 mg/L, which means we will need a rebuttal from the supplier. The flash point is greater than 140 deg F. I do not know the potential volume for this source but should definitely pursue the acquisition of this material for sale into our black oil market.

2845
TBC Brian (Blue)

EPAHO106001544

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2845

Expiration Date 6/17/2010

Generator: TBC Brinadd (Blue Ridge)
Address: 5035 McHard Rd
Blue Ridge, TX 77056

Waste Information

Name of Waste: Sluggit CM
TCEQ Waste Code #: CESQ3192
Container Type: 150 lbs box
Detailed Description of Process Generating Waste:
off spec/out of date
Color: white/grey **Odor:** none **pH:** na
Physical State:
Incompatibilities: na
Safety Related Data/Special Handling:
na

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

YRP

Waste profile needs "Haz" "No" completed.

DB

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company:	TCB- Brinadd				
Address:	5035 McHard Rd.				
City:	Houston	**State:**	TX	**Zip:**	77053
Contact:	Zac		**Title:**		
Phone Number:	281-541-4829		**Fax Number:**		
24/hr Phone Number:					
US EPA ID No:	TXCESQG				
State ID No:	CESQG		**SIC Code:**		

SECTION 2: Billing Information - ☐ **Same as Above**

Company:	CKG Services, LLC				
Address:	10707 Honea Egypt Rd.				
City:	Montgomery	**State:**	TX	**Zip:**	77316
Contact:	Zac McKaughan		**Title:**	President	
Phone Number:	281-541-4829		**Fax Number:**	936-756-1226	

SECTION 3: General Description of the Waste

Name of Waste: Sluggit CM

Detailed Description of Process Generating Waste: off spec/out of date

Physical State: ☐ **Liquid** ☐ **Sludge** ☑ **Powder**
☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: white-gray **Odor:** none

Specific Gravity (water=1): nla ~~2.71~~ **Density:** na nla lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type: ☐ **Drum** ☐ **Tote** ☐ **Truck** ☑ **Other (explain)**

Frequency: ☐ **Weekly** ☐ **Monthly** ☑ **Yearly** ☐ **One-Time**
Quantity: 1 50LB box

EPAHO106001546

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: CESQG3192

Proper US DOT Shipping Name: non-Hazardous/non-DOT regulated
Class: _____ **UN/NA:** _____ **PG :** _____ **RQ:** _____

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>200		NC		na	mg/l	na	mg/l	100	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
na	mg/l	na	mg/l	na	mg/l	na	mg/l	na	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Calcium Carbonate	98-99	%
Magnesium carbonate	1-2	%
Crystalline Silica	.01-1.5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

na

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

na

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6/3/2008

Printed Name/Title: Zac McKaughan

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Zachary McKaughan

Date: 6-17-08 ☑ Approved ☐ Rejected

Approval Number: 2845

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory*: *Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory*: *Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory*: *Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

CCSQ 3/92

TBC-BRINADD

A DIVISION OF TEXAS UNITED CHEMICAL CO., LLC

4800 San Felipe
Houston, TX 77056
(713) 877-2769

MATERIAL SAFETY DATA SHEET

Product: Sluggit CM **Revision: 2**
Product Code: 6260 **Issue Date: 6/16/2000**

U.S. DEPARTMENT OF LABOR, Occupational Safety and Health Administration Form Approved OMB No. 1218-0072, may be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200.

SECTION I - PRODUCT IDENTITY

(As used on label and list)
SLUGGIT CM

CAS # 471-34-1

EMERGENCY TELEPHONE NUMBER: **(713) 664-4911**
INFORMATION TELEPHONE NUMBER: **(713) 877-2769**

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMMON NAME	OSHA PEL-TWA	ACGIH TLV-TWA	OTHER RECOMMENDED LIMITS	%
Calcium Carbonate	15 mg/m^3 total 5 mg/m^3 respirable	10 mg/m^3		98 - 99
Magnesium Carbonate	Not established	Not established	OSHA: 15 mg/m^3 (as PNOR total dust) ; 5 mg/m^3 (as PNOR respirable fraction) ACGIH: 10 mg/m^3 (as PNOC inhalable dust) ; 3 mg/m^3 (as PNOC respirable fraction)	1 - 2
Crystalline Silica	10 mg/m^3 / %SiO_2 + 2 for respirable 30 mg/m^3 for total / %SiO_2 + 2	0.1 mg/m^3		0.01 - 1.5

$100\% SiO_2 = 0.1 mg/m^3$

PNOR = Particulate not otherwise regulated
PNOC = Particulate not otherwise classified

The calcium carbonate in these products may contain crystalline silica at levels between 0.01 % and 1.5 % and varies naturally.

There are also small but detectable amounts of the following other naturally occurring chemicals that are known to the State of California to cause cancer, birth defects or other reproductive harm. This warning is provided in the absence of definitive testing to prove that these risks do not exist. These amounts are typical quantities and may vary slightly with different lots.

Chemical	Typical Amount	CAS Number
Arsenic	less than 1 ppm	7440-38-2
Lead	less than 1 ppm	7439-92-1

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: N/A

Specific Gravity (H2O = 1): 2.71

Vapor Pressure (mm Hg.): N/A

Melting Point: N/A

Vapor Density (AIR = 1): N/A

Evaporation Rate (Butyl Acetate = 1): N/A

Appearance and Odor: White to gray powder

Solubility in Water: Negligible

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): Non Flammable

Flammable Limits:

LEL: N/A
UEL: N/A

Extinguishing Media: As appropriate for surrounding area.

Special Fire Fighting Procedures: None

Unusual Fire and Explosion Hazards: None

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None Known

Incompatibility (Materials to Avoid): Reacts with strong acids to liberate carbon dioxide.

Hazardous Decomposition or Byproducts: None

EPAHO106001552

Hazardous Polymerization: Will Not Occur

SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:

Eye	Yes
Inhalation	Yes
Skin	No
Ingestion	Yes

Carcinogenicity:

SLUGGIT CM is not on the NTP (National Toxicology Program), IARC (International Agency for Research on Cancer), or OSHA (Occupational Safety and Health Administration) lists of carcinogens. Crystalline Silica (CAS 14808-60-7), a trace component of calcium carbonate, has been listed by the IARC as carcinogenic to humans (Class 1).

NTP	Yes*
IARC Monographs	Yes*
OSHA Regulated	Yes*

*crystalline silica

Medical Conditions Generally Aggravated by Exposure: No Information

Emergency and First Aid Procedures:

Ingestion:
Ingestion should not cause any significant health problems.

Inhalation:
May cause nose and throat irritation. Remove to fresh air. Seek medical attention if irritation persists.

Skin Contact:
May cause dryness to skin. Wash with mild soap and water.

Eye Contact:
May cause irritation and redness. Flush with water for at least 15 minutes. If irritation persists, get medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material is Released or Spilled:
Mechanical cleanup for reuse or disposal. Respiratory protection should be worn during clean up to protect from airborne dust. Measures should be taken to reduce airborne dust during clean up.

Waste Disposal Method:

EPAHO106001553

Dispose of in accordance with local, state and federal regulations.

Precautions to Be Taken in Handling and Storing: None

Other Procedures: None

SECTION VIII - CONTROL MEASURES

Respiratory Protection: If regulatory limits (see Section II) are exceeded, an appropriate NIOSH/MSHA approved respirator with particulate cartridges should be worn (in compliance with 29 CFR 1910.134).

Ventilation: Local exhaust as required to maintain dust levels below exposure limits.

Protective Gloves: Standard work gloves.

Eye Protection: Goggles.

Other Protective Clothing or Equipment: None.

SECTION IX - REGULATORY INFORMATION

All Components on TSCA Inventory:	Yes
DOT Shipping Name:	Not Applicable
DOT Hazard Class:	Not Regulated
DOT Labels:	None
UN Number:	Not Applicable
DOT Marine Pollutant:	Not Listed
Ozone Depleting Substance:	Not Listed

HMIS Code:

Health:	1*
Flammability:	0
Reactivity:	0

*May affect lung function, avoid exposure to high levels of dust.

PPE Code: E: Safety Glasses (goggles), Gloves, Dust respirator

Schedule B Number: 2836.50.0000

SECTION X - LEGEND INFORMATION

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissible Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer
N/A - Not Applicable

EPAHO106001554

N/D - Not Determined

SECTION XI - REVISIONS

June 16, 2000 Rev 2

1.) Supercedes December 29, 1997 Rev 1
2.) Update of all information

DISCLAIMER: The information herein is given in good faith but no warranty, expressed or implied, is made.

EPAHO106001555

TBC-BRINADD

A DIVISION OF TEXAS UNITED CHEMICAL CO., LLC

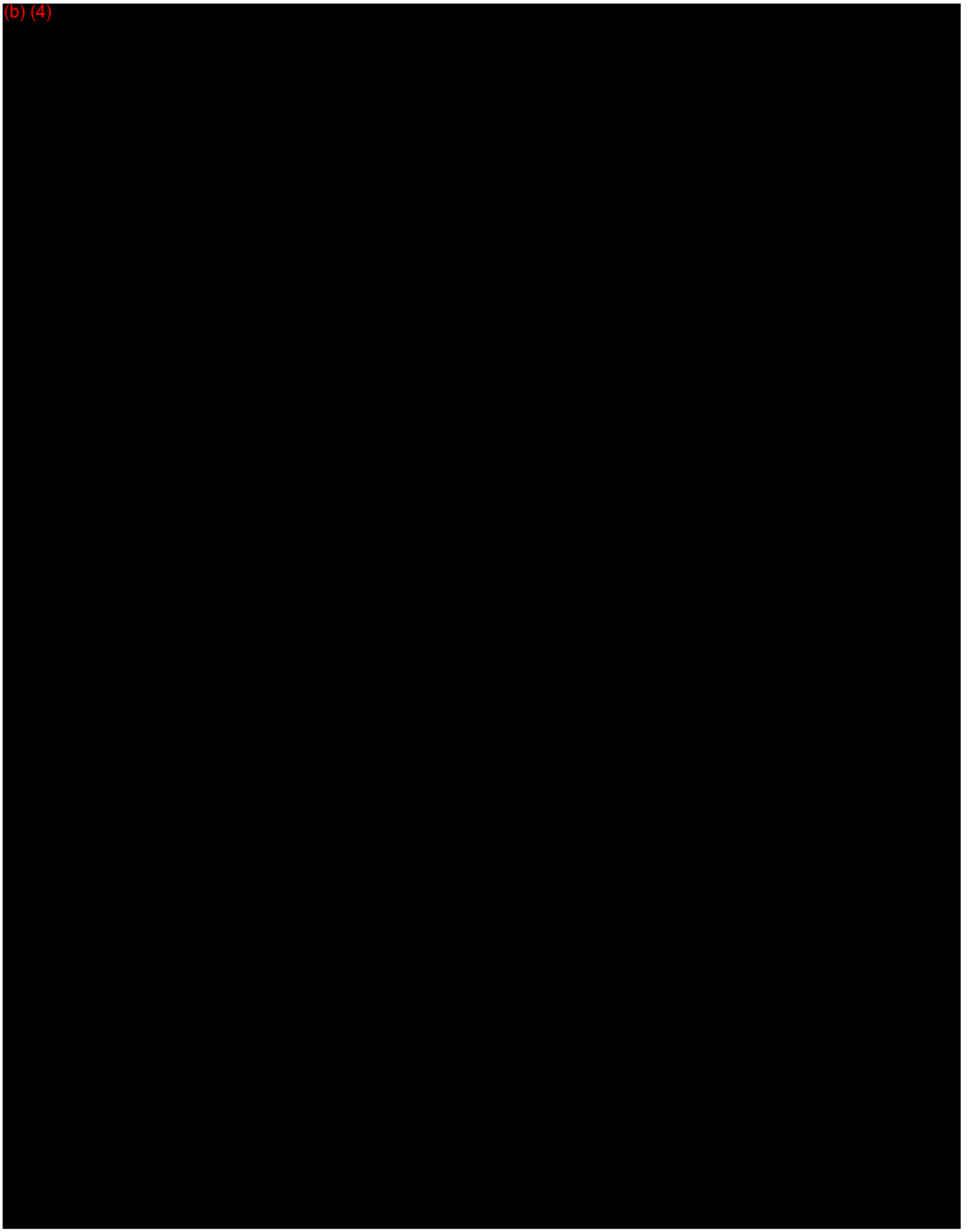
4800 San Felipe
Houston, TX 77056
www.tbc-brinadd.com

MATERIAL SAFETY DATA SHEET

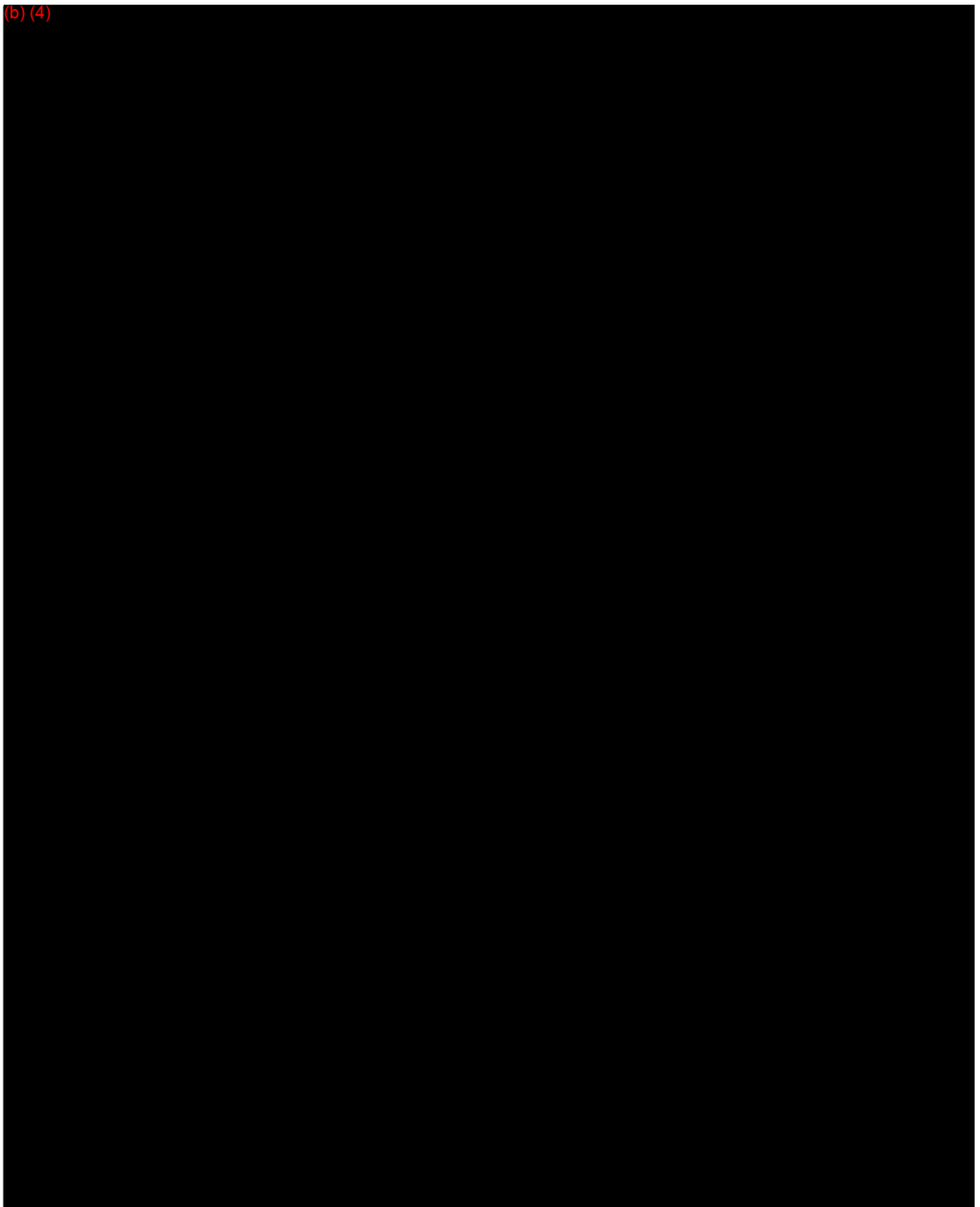
(b) (4)

[redacted]

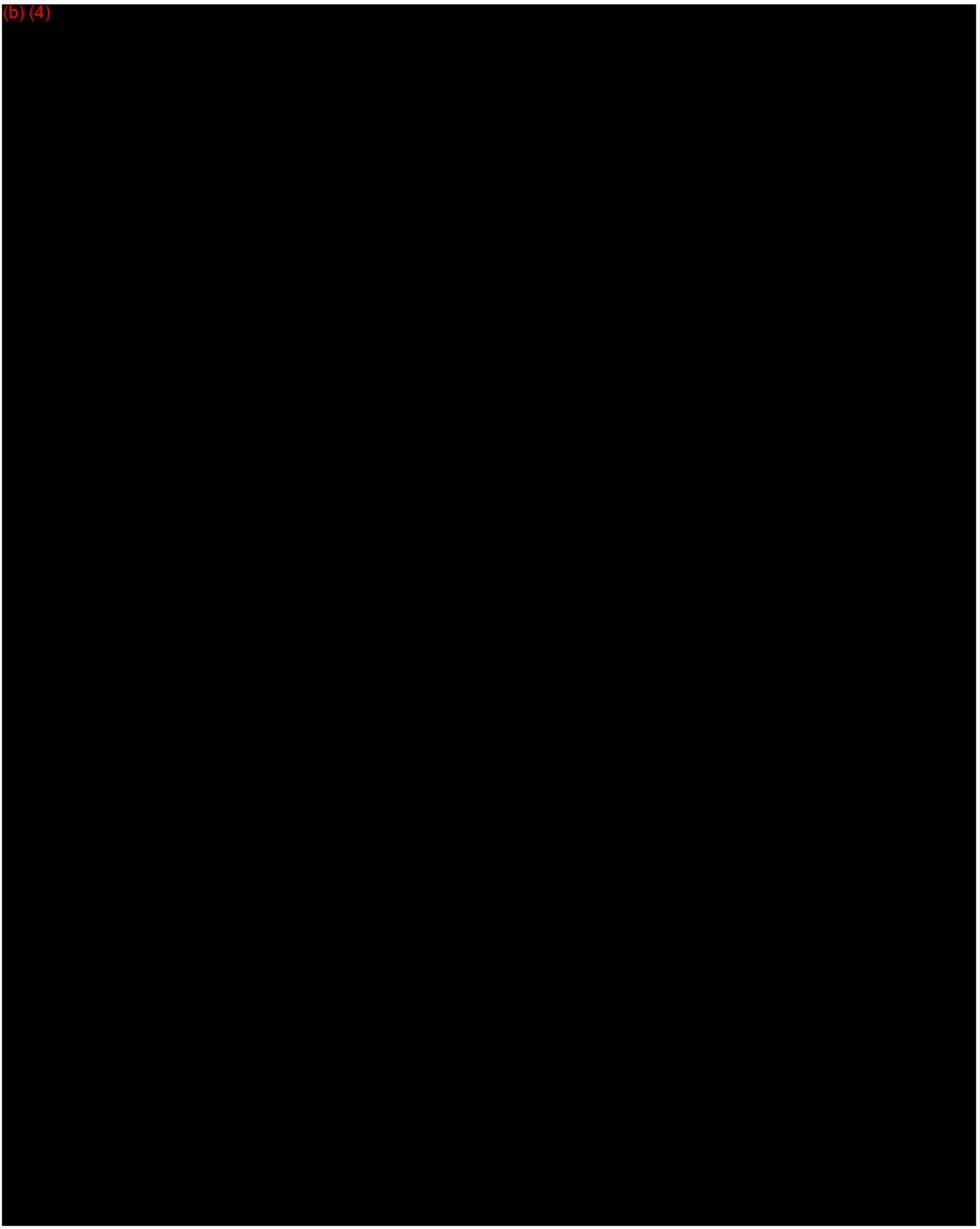
(b) (4)



(b) (4)



(b) (4)



CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$30/dm
+10/yd

2. **Contamination Limits (maximum limit before surcharges apply):**

N/A

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None-Be sure fits profile

5. **Treatment and Handling Protocol:**

Class 2 inorganic Solids - Avoid water - partially soluble.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001560

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable):**

Na

2846
TBC Binder (Blue)

EPAHO106001562

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2846

Expiration Date 6/17/2010

Generator: TBC Brinadd (Blue Ridge)
Address: 5035 McHard Rd
Blue Ridge, TX 77056

Waste Information

Name of Waste: Solukleen
TCEQ Waste Code #: CESQ4031
Container Type: 1 cy sac
Detailed Description of Process Generating Waste:
Off spec/out of date
Color: yellow **Odor:** none **pH:** na
Physical State:
Incompatibilities: na
Safety Related Data/Special Handling:
na

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

Need waste profile "Haz" "No" checked.
All other paperwork is OK.

DB

CES Environmental Services, Inc.

4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: TCB- Brinadd
Address: 5035 McHard Rd.
City: Houston **State:** TX **Zip:** 77053
Contact: Zac **Title:**
Phone Number: 281-541-4829 **Fax Number:**
24/hr Phone Number:
US EPA ID No: TXCESQG
State ID No: CESQG **SIC Code:**

SECTION 2: Billing Information - ☐ **Same as Above**

Company: CKG Services, LLC
Address: 10707 Honea Egypt Rd.
City: Montgomery **State:** TX **Zip:** 77316
Contact: Zac McKaughan **Title:** President
Phone Number: 281-541-4829 **Fax Number:** 936-756-1226

SECTION 3: General Description of the Waste

Name of Waste: Solukleen (see MSDS)
Detailed Description of Process Generating Waste: off spec/out of date

Physical State: ☐ Liquid ☐ Sludge ☑ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: yellow **Odor:** ~~petroleum~~ none

Specific Gravity (water=1): ~~1.08~~ na **Density:** na lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☑ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☑ Yearly ☐ One-Time
Quantity: 1 cy sack

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: CESQ403

Proper US DOT Shipping Name: non-Hazardous/non-DOT regulated
Class: _____ **UN/NA:** _____ **PG :** _____ **RQ:** _____

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
NA		na		na	mg/l	na	mg/l	100	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
na	mg/l	na	mg/l	na	mg/l	na	mg/l	na	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
~~Magnesium Carbonate~~	~~2-10~~	%
~~derivited starch~~	~~15-90~~	%
~~calcium hydroxide~~	<1	%
Solu Kleen	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

na

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

na

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6/3/2008

Printed Name/Title: Zac McKaughan

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 6-17-08 ☑ Approved ☐ Rejected

Approval Number: 28446

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$35/dm
$75/cy

2. **Contamination Limits (maximum limit before surcharges apply):**

N/A

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None-Be sure fits profile

5. **Treatment and Handling Protocol:**

Class 1 solids Box - Avoid water this is water soluble.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001569

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable);**

Na

TBC-BRINADD

A DIVISION OF TEXAS UNITED CHEMICAL CO., LLC

4800 San Felipe
Houston, TX 77056
(713) 877-2769

MATERIAL SAFETY DATA SHEET

Product: Solukleen **Revision: 2**
Product Code: 6355 **Issue Date: 2/07/2002**

U.S. DEPARTMENT OF LABOR, Occupational Safety and Health Administration Form Approved OMB No. 1218-0072, may be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200.

SECTION I - PRODUCT IDENTITY

(As used on label and list)

SOLUKLEEN

CAS #63393-89-5
Resin Polymer Blend

EMERGENCY TELEPHONE NUMBER: **(713) 664-4911**
INFORMATION TELEPHONE NUMBER: **(713) 877-2769**

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMMON NAME	OSHA PEL-TWA	ACGIH TLV-TWA	OTHER RECOMMENDED LIMITS	%
Derivatized Starch	Not established	Not established	OSHA: 15 mg/m^3 (as PNOR total dust) ; 5 mg/m^3 (as PNOR respirable fraction). ACGIH: 10 mg/m^3 (as PNOC inhalable dust) ; 3 mg/m^3 (as PNOC respirable fraction).	15-30
Magnesium Oxide (as fume)	15 mg/m^3	10 mg/m^3	OSHA: 5 mg/m^3 (as PNOR respirable fraction) ACGIH: 3 mg/m^3 (as PNOC respirable fraction)	2-10
Calcium Hydroxide	15 mg/m^3 (total dust); 5 mg/m^3 (respirable	5 mg/m^3	3 mg/m^3 (as respirable fraction PNOC)	<1

fraction)

PNOR = Particulate not otherwise regulated
PNOC = Particulate not otherwise classified

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: N/A

Specific Gravity (H2O = 1): 1.08

Vapor Pressure (mm Hg.): N/A

Melting Point: N/A

Vapor Density (AIR = 1): N/A

Evaporation Rate (Butyl Acetate = 1): N/A

Appearance and Odor: Yellow powder with petroleum odor

Solubility in Water: Appreciable

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/A

Flammable Limits:

LEL: N/A
UEL: N/A

Extinguishing Media: Appropriate for surrounding fire

Special Fire Fighting Procedures: In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

Unusual Fire and Explosion Hazards: Treat as flammable dust in finely divided and suspended state.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None Known

Incompatibility (Materials to Avoid): Strong acids, petroleum distillates, oxidizers

Hazardous Decomposition or Byproducts: CO, CO_2

Hazardous Polymerization: Will Not Occur

SECTION VI - HEALTH HAZARD DATA

EPAHO106001572

Route(s) of Entry:

Eye?	Yes
Inhalation?	Yes
Skin?	Yes
Ingestion?	Yes

Carcinogenicity:

NTP?	No
IARC Monographs?	No
OSHA Regulated?	No

Medical Conditions Generally Aggravated by Exposure: No Information

Emergency and First Aid Procedures:

Ingestion:
Not intended for human or animal consumption, may cause nausea. Consult physician.

Inhalation:
May cause dryness to nose and throat. Remove to fresh air.

Skin Contact:
May cause dryness to skin. Wash with water.

Eye Contact:
May cause irritation and redness. Flush with water. Get medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material is Released or Spilled: Mechanical cleanup for reuse or disposal.

Waste Disposal Method: Dispose of in landfill in accordance with local, state and federal regulations.

Precautions to Be Taken in Handling and Storing: Keep dry, may contribute to slickness of surface when wet.

Other Procedures: None

SECTION VIII - CONTROL MEASURES

Respiratory Protection: If regulatory limits (see Section II) are exceeded, an appropriate NIOSH/MSHA approved respirator with particulate cartridges should be worn (in compliance with 29 CFR 1910.134).

Ventilation: Local exhaust satisfactory

Other: Treated as a nuisance dust

Protective Gloves: Standard work gloves

Eye Protection: safety glasses

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Other Protective Clothing or Equipment: None

SECTION IX - REGULATORY INFORMATION

All Components on TSCA Inventory?: Yes

DOT Shipping Name:	Not Applicable
DOT Hazard Class:	Not Regulated
DOT Labels:	None
UN Number:	None
DOT Marine Pollutant:	Not Listed
Ozone Depleting Substance:	Not Listed
HMIS Code:	Health: 1 Flammability: 1 Reactivity: 0
Schedule B Number:	3505.10.0000

SECTION X - LEGEND INFORMATION

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissible Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer
N/A - Not Applicable
N/D - Not Determined

SECTION XI - REVISIONS

February 7, 2002

1.) Supercedes December 29, 1997
2.) Updated all information

DISCLAIMER: The information herein is given in good faith but no warranty, expressed or implied is made

EPAHO106001574

2847
TBC Brianadd

EPAHO106001575

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2847

Expiration Date 6/17/2010

Generator: TBC Brianadd
Address: 235 Fariss St.
Houston, TX 77054

Waste Information

Name of Waste: FL-7PLUS
TCEQ Waste Code #: CESQ3192
Container Type: cu yd sac
Detailed Description of Process Generating Waste:
Off spec/out of date material
Color: white **Odor:** none **pH:** na
Physical State:
Incompatibilities: na
Safety Related Data/Special Handling:
na

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

DB

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	TBC BRINADD		
Address:	235 FARRIS		
City, State, Zip:	HOUSTON, TX		
Contact:	ZAC MCKAUGHAN	**Title:**	
Phone No:	936-483-3662	**Fax No:**	
24/hr Phone:	281-541-4829		
U.S. EPA I.D. No:	TXCESQG		
State I.D.	CESQG	**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above

Company:	CKG SERVICES, LLC		
Address:	10707 HONEA EGYPT ROAD		
City, State, Zip:	MONTGOMERY, TX 77316		
Contact:	ZAC MCKAUGHAN	**Title:**	PRESIDENT
Phone No:	936-483-3662	**Fax No:**	936-756-1226

SECTION 3: General Description of the Waste

Name of Waste: FL-7PLUS
Detailed Description of Process Generating Waste: OUT OF SPEC/OUT OF DATE

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☒ Solid ☐ Filter Cake ☐ Combination

Color: WHITE **Odor:** NA

Specific Gravity (water=1): NA **Density:** ~~30-40~~ NA lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☒ Other (explain) SACK/CUBIC YARD
Container Size: ____ ____ ____

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly
Number of Units (containers): 1 **Other:** ____
Texas State Waste Code No: CESQ 3192
Proper U.S. DOT Shipping Name: Non RCRA, Non DOT Regulated Waste Solids
Class: NA **UN/NA:** NA **PG:** NA **RQ:** ____

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Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
nr	6.0-8.0	mg/l	mg/l	100 %

Oil&Grease	TOC	Zinc	Copper	Nickel
nr mg/l	nr mg/l	nr mg/l	nr mg/l	nr mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
HYDROXYPROPYL STARCH	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
NA

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
NA

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: 0
TCLP Volatiles: 0
TCLP Semi-Volatiles: 0
Reactivity: 0
Corrosivity: 0
Ignitability: 0

SECTION 9: Generator's Certification

The information contained herein is based on ☐ generator knowledge and/or ☒ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 5-20-08

Printed Name/Title: ZAC MCKAUGHAN/PRESIDENT

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 6-17-08 Approved Rejected

Approval Number: 2847

EPAHO106001578

TBC-BRINADD

A DIVISION OF TEXAS UNITED CHEMICAL CO., LLC

4800 San Felipe
Houston, TX 77056
www.tbc-brinadd.com

MATERIAL SAFETY DATA SHEET

Product: FL-7 Plus **Revision: 7**
Product Code: 6441 **Issue Date: 05/11/2007**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

(As used on label and list)

FL-7 Plus

DISTRIBUTED BY:

TBC-BRINADD
5035 McHard Street
Houston, Texas 77053

EMERGENCY TELEPHONE NUMBER: (281) 438-2565
INFORMATION TELEPHONE NUMBER: (713) 877-2769

SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS

9049-76-7

COMMON NAME	EC No.	CAS-NO.	Content, %	Classification
Proprietary	Proprietary	Proprietary	100	--

SECTION III - HAZARDS IDENTIFICATION

Route(s) of Entry:
Inhalation May cause irritation to respiratory system.
Skin None Known.
Ingestion Not edible.

Health Hazards (Acute or Chronic):
This material is not manufactured to contain any hazardous components. In eyes or respiratory systems it may cause irritation if heavy concentrations are encountered.

SECTION IV - FIRST -AID MEASURES

Ingestion: If accidentally swallowed, dilute by drinking large quantities of water, seek medical attention

Inhalation: If inhaled, remove to fresh air, seek medical attention if irritation continues.

Skin Contact: Wash skin with soap and water.

Eye Contact: Flush eyes with water for 15 minutes, seek medical attention.

SECTION V - FIRE-FIGHTING MEASURES

Extinguishing Media: Water, CO_2, Dry Powder or Foam

Special Fire Fighting Procedures: None

Unusual Fire and Explosion Hazards: Dust-air mixtures may be explosive. The minimum ignition temperature reported, through a 200 mesh sieve, is 380 degrees C (716 degrees F.) The minimum explosive concentration of a dust cloud is 0.04 oz./cu.ft. Avoid open lights, flames, welding and spark producing sources.

SECTION VI - ACCIDENTAL RELEASE MEASURES

Steps To Be Taken in Case Material is Released or Spilled: Sweep up and flush area with water. Caution: Wet floors may be slippery when material is present. Avoid production of Dust (Refer to Section V).

SECTION VII - HANDLING AND STORAGE

Precautions To Be Taken in Handling and Storage: Avoid practices which produce dust. Store away from heat, flame and spark source (Refer to Section V).

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

COMMON NAME	OSHA PEL-TWA	ACGIH TLV-TWA	OTHER RECOMMENDED LIMITS
Proprietary Component	Not established	Not established	OSHA: 15 mg/m^3 (as PNOR total dust) ; 5 mg/m^3 (as PNOR respirable fraction). ACGIH: 10 mg/m^3 (as PNOC inhalable dust) ; 3 mg/m^3 (as PNOC respirable fraction).

Respiratory Equipment: Dust Respirator (NIOSH/MSHA TC-21C-132.) as needed.

Ventilation: As needed to control dust.

Protective Gloves: Recommended.

Eye Protection: Recommended.

Work/Hygienic Practices: Avoid creation of dust.

Other Protective Clothing or Equipment: None.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

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Appearance and Odor: White to off white powder.

Solubility: Complete

pH (4% Sol): 6.0 - 8.0

Density (Lb./Cu.Ft): 30 - 40

SECTION X - STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Damp or wet conditions will lead to spoilage.

Materials to Avoid: Strong Oxidizing agents.

Hazardous Decomposition or By-products: Oxides of carbon.

Hazardous Polymerization: Will not occur.

SECTION XI - TOXICOLOGICAL INFORMATION

Acute Eye Irritation:No test data found for product.

Acute Skin Irritation:No test data found for product.

Acute Dermal Toxicity:No test data found for product.

Acute Respiratory Irritation:No test data found for product.

Acute Inhalation Toxicity:No test data found for product.

Acute Oral Toxicity:No test data found for product.

Chronic Toxicity:
Test product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "Suspected" human carcinogens.

No additional test data found for product.

SECTION XII - ECOLOGICAL INFORMATION

No information available.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of in a manner which is in accordance with state and local regulations.

SECTION XIV - TRANSPORT INFORMATION

All Components on TSCA Inventory: Yes

DOT Shipping Name:	Not Applicable
DOT Hazard Class:	Not Regulated
DOT Labels:	None
UN Number:	Not Applicable

EPAHO106001581

DOT Marine Pollutant:	Not Listed
Ozone Depleting Substance:	Not Listed
HMIS Code:	
Health:	0
Flammability:	1
Reactivity:	0
Schedule B Number:	3505.10.0020

SECTION XV - REGULATORY INFORMATION

Risk Phrases	Not classified
Safety Phrases	Not Classified
WHMIS Classification	Not Controlled

SECTION XVI - OTHER INFORMATION

LEGEND INFORMATION
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissible Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer
N/A - Not Applicable
N/D - Not Determined
(R) - Registered
WHMIS - Workplace Hazardous Materials Information System

REVISIONS

May 11, 2007 Rev 7	1.) Supercedes January 11, 2007 Rev 6 2.) Updated Section XI Toxicological information. 3.) Updated Section XV Regulatory information.
January 11, 2007 Rev 6	1.) Supecedes July 18, 2006 Rev 5 2.) Updated all information
July 18, 2006 Rev 5	1.) Supercedes January 26, 2006 Rev 4 2.) Updated to Proprietary status
January 26, 2006 Rev 4	1.) Supercedes December 1, 2003 Rev 3 2.) Added WHMIS Classification 3.) Updated PHYSICAL DATA 4.) Updated FIRE AND EXPLOSION DATA 5.) Updated SPILL OR LEAK PROCEDURE
December 1, 2003 Rev 3	1.) Supercedes June 25, 2000 Rev 2 2.) Added WHMIS Classification

EPAHO106001582

	3.) Reviewed all information
June 25, 2000 Rev 2	1.) Supercedes December 29, 1997 Rev 1 2.) Updated all information

DISCLAIMER: *The information herein is given in good faith but no warranty, expressed or implied is made.*

EPAHO106001583

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$3[illegible]/dm [illegible]
40/[illegible]

2. **Contamination Limits (maximum limit before surcharges apply):**

N/A

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None-Be sure fits profile

5. **Treatment and Handling Protocol:**

Class 2 inorganic Solids ; Avoid water - this is water soluble.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable):**

Na

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2848
Safety R/Wy SVCS

EPAHO106001586

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/18/2008**

Dear **Lawrence Horan**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2848

Expiration Date 6/18/2010

Generator: Safety Railway Services
Address: Hwy 59 S. Aloe Field Whse Road
Victoria, TX 77902

Waste Information

Name of Waste: Asphalt liquid/Diesel
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Cleaning out product from railcars
Color: black **Odor:** petroleum like **pH:** 7
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
level D

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

RP
OK

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

AE

SECTION 1: Generator Information

Company:	Safety Railway Services		
Address:	Hwy 59 S Aloe Field Whse Rd		
City, State, Zip:	Victoria, TX 77902		
Contact:	Orlo Brooks	**Title:**	Env. manager
Phone No:	361.575.2141	**Fax No:**	
24/hr Phone:	210.525.2524		
U.S. EPA I.D. No:	TXD063071393		
State I.D.	31767	**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above ✓

Company:	Responsive Environmental Solutions		
Address:	PO Box 311732		
City, State, Zip:	New Braunfels, TX 78131		
Contact:	Lawrence Horan	**Title:**	The Boss
Phone No:	210.281.9711	**Fax No:**	210.281.9731

SECTION 3: General Description of the Waste

Name of Waste: Asphalt Liquid / Diesel
Detailed Description of Process Generating Waste: Cleaning out product from Railcars

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Black **Odor:** Petroleum Like

Specific Gravity (water=1): .85 **Density:** 8 lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☒ Tote ☐ Truck ☐ Other (explain)
Container Size: 275 gal ____ ____

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly
Number of Units (containers): 3 **Other:** ____
Texas State Waste Code No: NA-Recyclable Material
Proper U.S. DOT Shipping Name: ~~Non-RCRA; Non-DOT Regulated Material~~ Combustible liquid, NOS
Class: ~~NA~~ 3 **UN/NA:** ~~NA~~ 1993 **PG:** ~~NA~~ III **RQ:** NA

Flash Point >150	**pH** 7	**Reactive Sulfides** 0mg/l	**Reactive Cyanides** 0mg/l	**Solids** <2%
Oil&Grease >1500mg/l	**TOC** >1500mg/l	**Zinc** 0mg/l	**Copper** 0mg/l	**Nickel** 0mg/l

06/16/2008 14:10 2102819731 RES PAGE 02

EPAHO106001588

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Asphalt Liquids	95	%
Diesel	8-10	%
Watr	0-2	%
Oil	0-2	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
None

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Strong acids and bases oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6-13-08

Printed Name/Title: Project Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____ Additional Information: _____

Date: 6-18-08 Approved Rejected _____

Approval Number: _____

06/16/2008 14:10 2102819731 RES PAGE 03

EPAHO106001589

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

06/16/2008 14:10 2102819731 RES PAGE 04

EPAHO106001590

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

5

06/16/2008 14:10 2102819731 RES PAGE 05

EPAHO106001591

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$100.00 per tote

Transportation by Customer

2. **Contamination Limits (maximum limit before surcharges apply):**

none

3. **Surcharge Pricing:**

none

4. **Special Testing Requirements:**

none

5. **Treatment and Handling Protocol:**

Pull liquid diesel phase for recycle to black oil Solids, put in shredder and load as Class 1 NH Waste

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001592

7. **Tests for Product Recovered/Recycled (if applicable):**

none

8. **Management for Product Recovered/Recycled (if applicable):**

black oil or fuel

FOR CHEMICAL EMERGENCY
Call INFOTRAC
1-800-535-5053
24 Hrs. per day, 7 days per week

MANUFACTURED FOR: PIONEER/
RANDUSTRIAL
4529 INDUSTRIAL PARKWAY
CLEVELAND, OH 44135
INFORMATION: 216-671-5500

MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT IDENTIFICATION

PRODUCT NAME: SHIELD TITE WET SURFACE ASPHALT COATING
CHEMICAL FAMILY: ASPHALT BASED ROOF COATING
PRODUCT NUMBER: R-11-W (R11W05)
EMERGENCY TELEPHONE: 800-535-5053
DATE PREPARED: 02/28/02
PREPARED BY: ACT-GS

#18218

SECTION 2 – HAZARDOUS INGREDIENTS

CHEMICAL NAME	CAS NO.	OSHA PEL	ACGIH TLV	WT%
PETROLEUM ASPHALT	8052-42-4	5 mg/m^3 respirable fraction	5 mg/m^3 fumes	<70
MINERAL SPIRITS	8052-41-3	500 ppm	100 ppm	<25
CLAY	12174-11-7	15 mg/m^3	10 mg/m^3	<5
DIATOMACEOUS EARTH	61790-53-2	80 mg/m^3	10 mg/m^3	<10
CELLULOSE FIBER	9004-34-6	15 mg/m^3	10 mg/m^3	<5
BUTYL RUBBER	Mixture	N.E.	N.E.	<2

CONTAINS NO CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313

SECTION 3 – PHYSICAL DATA

BOILING POINT (^{0}F):	300 initial	MELTING POINT:	N.A.
SPECIFIC GRAVITY:	0.98	EVAPORATION RATE (BUAC=1):	0.1
VAPOR PRESSURE:	2.1 mm Hg @ 20^{0}C	VAPOR DENSITY:	Heavier than air
% VOLATILE BY VOL.	30	SOLUBILITY, WATER:	Insoluble
pH	N.A.		
APPEARANCE/ODOR:	Black liquid, petroleum odor		

SECTION 4 – FIRE AND EXPLOSION DATA

FLASH POINT: 105 ^{0}F TCC FLAMMABILITY LIMITS: LEL 0.9 UEL 6.7
AUTOIGNITION TEMPERATURE: 540 ^{0}F
EXTINGUISHING MEDIA: Foam, Carbon Dioxide, Dry Chemical, Water Fog.

SPECIAL FIREFIGHTING INSTRUCTIONS: Material will float on water and can be reignited. Use water to cool containers to prevent bursting. Wear full firefighting gear including self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Intense heat can cause pressure build-up in containers and can result in bursting. Vapors are heavier than air and can travel along the ground to remote sources of ignition. Empty containers may contain residual vapors or liquid that could be ignited by heat, flame, sparks or other ignition sources.

EPAHO106001594

SECTION 5 - REACTIVITY DATA

STABILITY: Stable. CONDITIONS TO AVOID: Heat, flame, sparks, or other sources of ignition.
INCOMPATABILITY: Avoid strong oxidizers.

HAZARDOUS DECOMPOSITION BYPRODUCTS: Carbon Dioxide, Carbon Monoxide, Oxides of Nitrogen, Hydrogen Sulfides, and Smoke.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 6 – HEALTH HAZARD DATA

ROUTES OF EXPOSURE: Inhalation, Skin Contact, and Eye Contact.

HEALTH HAZARDS (ACUTE): Vapors may be irritating to nose, throat, and respiratory tract. High concentrations may cause headaches, dizziness, nausea, drowsiness, anesthesia, and unconsciousness and can result in death. Vapors and liquid can cause eye irritation, redness, tearing and blurred vision. Ingestion can cause irritation of mouth, throat, and gastrointestinal tract. May cause nausea and vomiting. Aspiration of petroleum distillates into the lungs can cause severe chemical pneumonitis, which can be fatal.

HEALTH HAZARDS (CHRONIC): Prolonged or repeated contact can cause skin dryness, irritation and dermatitis.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Central nervous system diseases, skin disorders, eye disorders or chronic respiratory diseases may be worsened by exposure.

Ingredients are not considered carcinogenic by OSHA or NTP. IARC monographs list refined bitumens as possibly carcinogenic to humans based upon animal studies. IARC regards it prudent to treat a material for which there is sufficient evidence of carcinogenicity in animals as if it is possibly carcinogenic in humans.

EMERGENCY AND FIRST AID PROCEDURES: IF INHALED: Remove person to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, administer artificial respiration. Seek emergency medical attention. SKIN CONTACT: Remove material using waterless hand cleaner. Wash skin with mild soap and water. If irritation persists, seek medical attention. Remove and launder contaminated clothing before reuse. EYE CONTACT: Flush eyes with cool running water for at least 15 minutes while holding eyelids open. Seek immediate medical attention. IF INGESTED: **DO NOT INDUCE VOMITING.** Call a doctor or Poison Control Center immediately. Aspiration can cause chemical pneumonitis that is potentially fatal.

SECTION 7 – PRECAUTIONS FOR SAFE HANDLING AND USE

STEPS TO BE TAKEN IF MATERIAL IS SPILLED OR RELEASED: Eliminate sources of ignition. Ventilate area. Wear appropriate safety equipment. Restrict access to area of spill. Contain spill using sand or other inert material. Recover free material to a secure container. Use inert absorbent to pick up residue. Wash area with soap and water.

WASTE DISPOSAL: Dispose of material in accordance with applicable Federal, State and local regulations. This material is a RCRA regulated hazardous waste.

PRECAUTIONS FOR STORAGE AND HANDLING: Do not store containers near heat, sparks, open flames or other sources of ignition. Keep container closed when not in use. Wear appropriate personal protective equipment when handling product. Grounding is required for pumping or spraying of material. Wash hands after using product and before eating or smoking.

EPAHO106001595

SECTION 8 – CONTROL MEASURES

RESPIRATORY PROTECTION: **FOR OUTDOOR USE ONLY.** Avoid breathing vapors or spray mist. If vapors exceed TLV, use a NIOSH/MSHA approved respirator equipped with an Organic Vapor cartridge or self-contained breathing apparatus.

EYE PROTECTION: Wear safety goggles or full-face shield.

PROTECTIVE GLOVES: Impervious plastic or rubber gloves.

PROTECTIVE CLOTHING: Wear long pants and long sleeved shirt. Remove contaminated clothing and launder before reuse.

OTHER PROTECTIVE MEASURES: Use waterless hand cleaner to remove material from skin. Avoid breathing of vapors and spray mist. Equipment must be grounded for pumping or spraying. Use explosion-proof equipment. Eye wash stations and safety showers should be available.

SECTION 9 – OTHER INFORMATION

ABREVIATIONS
NA=NOT APPLICABLE
ND=NOT DETERMINED
NE=NOT ESTABLISHED

	NFPA	HMIS
HEALTH	2	2
FLAMMABILITY	2	2
REACTIVITY	0	0
PERSONAL PROTECTION		B

VOC Content: 2.0 lbs/gal or 240 g/l. Complies with California, Massachusetts and Federal regulations in effect on date of issuance.

This product contains detectable amounts of some chemicals known to the State of California to cause cancer, birth defects or other reproductive effects.

DOT Proper Shipping Name: Combustible Material, NOS, 3, NA 1993, PG III
Contains Petroleum Distillates

The information contained herein is believed to be accurate and complete to the best of our knowledge at the time of issuance. PIONEER does not warranty the accuracy of this data and shall not be liable for any loss or damage arising from the use thereof.

EPAHO106001596

2849
NOV (Magno)

EPAHO106001597

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/18/2008**

Dear **Larry Pruitt**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2849

Expiration Date 6/18/2010

Generator: NOV (Magnolia)
Address: 210 Magnolia
Galena Park, TX 77547

Waste Information

Name of Waste: Universal waste batteries
TCEQ Waste Code #: UNIV
Container Type:
Detailed Description of Process Generating Waste:
Recyclable batteries from automobiles and equipment
Color: varies **Odor:** none **pH:** na
Physical State:
Incompatibilities: bases
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

LQP
Need waste profile "Haz" "No" completed
Need Component materials listed.
Should be recycle?

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

GB

SECTION 1: Generator Information

Company : NOV MAGNOLIA
Address : 210 MAGNOLIA
City, State, Zip : BAENA PARK, TX
Contact : LARRY PRUITT Title :
Phone No : 713 356-7388 Fax : 713-356-7403
24 / HR Phone : 713-356-7388
U.S EPA I.D No : TXCESQG
State I.D : CESQG SIC Code

SECTION 2: Billing Information

Company : NOV MAGNOLIA
Address : P.O. BOX 472
City, State, Zip : BAENA PARK, TX 77547
Contact : LARRY PRUITT Title :
Phone No : (713 356-7388 Fax : 713 356 7403

SECTION 3: General Description of the Waste

Name of Waste : ~~Batteries~~ Universal Waste batteries

Detailed Description of the Process Generating Waste:

Recyclable batteries from automobiles and equipment

Physical State : ☐ Liquid ☐ Sludge ☐ Powder
☑ Solid ☐ Filter Cake ☐ Combination

Color : varies Odor : none
Specific Gravity (Water=1) : ~~1.5~~ n/a Density : n/a 12 lbs / gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No
Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No
Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☐ No

2812 2813 2816 2819 2821 2822 2823 2824 2833 2834 2835 2836 2841 2842 2843 2844 2851
2861 2865 2869 2873 2874 2876 2879 2891 2892 2893 2896 2899 2911 3312 4953 4959 9511

Layers : ☑ Single-Phas ☐ Multi-Phase
Container Type : ☐ Drum ☐ Tote ☐ Truck ☑ Other (explain) pallet
Container Size : pallet
Number Of Units : 20

Is this a USEPA "Hazardous Waste" per 40 CFR 261.3? ☐ Yes ☑ No
If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", is it: ☐ D001 ☐ D002 ☐ D003

EPAHO106001599

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristics for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes:

Texas State Waste Code No : UNIV

Proper U.S. State Waste Code No : UN2794, Batteries, wet filled with acid, 8, PG III

Class : 8 **UN/NA :** 2794 **PG :** III **RQ :** na

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>200	na	<5 mg/l	<5 mg/l	100 %
Oil and Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
na mg/l	na mg/l	na mg/l	na mg/l	na mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Batteries	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

std

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.

none

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):

bases

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generators knowledge

TCLP Metals : x

TCLP Volatiles : x

TCLP Semi-Volatiles : x

Reactivity : x

EPAHO106001600

Corrosivity : x

Ignitability : x

SECTION 9: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge ? ☐ **YES** ☑ **NO**

If 'YES', complete this section

PLEASE CHECK THE APPROPRIATE BOX: IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE

Matals Subcategory: ***Subpart A***

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phospha
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: ***Subpart B***

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation wastes
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory ***Subpart C***

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bering wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesive and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations

☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcatego
☐ Oils Subcatego
☐ Organics Subcategory

SECTION 10: Additional Instruction

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby cerity that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature : _____ **Date :** 6/16/08

Printed Name / Title : Larry Pruitt HSE Mgr.

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer : _____

Date : 6-18-08 **Status :** (Approved) Rejected

Approval Number : 2849

Process Facility Information :

EPAHO106001602

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$1.65/lb TRANS $70 + FSC

2. Contamination Limit (maximum limit before surchages apply):

3. Surcharge Pricing:

4. Special Testing Requirements:

5. Treatment and Handling Protocol:

Drums must be weighed and the weight must be on an inbound report - Material must be sent to a recycler.

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

Send to Reliable Batteries

2850
Thermal Energy Coop

EPAHO106001605

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/19/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2850

Expiration Date 6/19/2010

Generator: Thermal Energy Cooperative
Address: 6935 South Main
Houston, TX 77030

Waste Information

Name of Waste: Skimmer pit mud
TCEQ Waste Code #: CESQ6091
Container Type:
Detailed Description of Process Generating Waste:
Dirt and debris from skimmer pit
Color: black **Odor:** mild **pH:** na
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
none

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

OK

DB

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: THERMAL ENERGY CORPORATION
Address: 1615 BRAESWOOD
City: HOUSTON **State:** TX **Zip:** 77030
Contact: CHARLIE MICHALAK **Title:** MAINT. MANAGER
Phone Number: 713-791-6730 **Fax Number:**
24/hr Phone Number: 21-541-4829
US EPA ID No: 988006453
State ID No: CESQG **SIC Code:**

SECTION 2: Billing Information - ☐ **Same as Above**

Company: CKG SERVICES
Address: 10707 HONEA EGYPT ROAD
City: MONTGOMERY **State:** TX **Zip:** 77316
Contact: ZAC MCKAUGHAN **Title:** PRESIDENT
Phone Number: 936-483-3662 **Fax Number:** 936-756-1226

SECTION 3: General Description of the Waste

Name of Waste: SKIMMER PIT MUD
Detailed Description of Process Generating Waste: DIRT AND DEBRIS FROM SKIMMER PIT

Physical State: ☐ Liquid ☑ Sludge ☐ Powder ☑ Solid ☐ Filter Cake ☐ Combination

Color: BLACK **Odor:** MILD

Specific Gravity (water=1): NA **Density:** NA lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☑ Monthly ☐ Yearly ☐ One-Time
Quantity: 110 GALLONS

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: CESQ6091

Proper US DOT Shipping Name: NON REGULATED/NON DOT/NON HAZ
Class: NA **UN/NA:** NA **PG :** NA **RQ:** NA

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
NA	NA	NA mg/l	NA mg/l	~~NA~~ 100 %
Oil & Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
NA mg/l	NA mg/l	NA mg/l	NA mg/l	NA mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
DIRT	95	%
WATER	5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

NONE

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. ANALYSIS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

None Known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	0
TCLP Volatiles:	0
TCLP Semi-Volatiles:	0
Reactivity:	0
Corrosivity:	0
Ignitability:	0

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6/13/08

Printed Name/Title: ZAC MCKAUGHAN / PRESIDENT

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 6-19-08 ☑ Approved ☐ Rejected

Approval Number: ~~285~~ 2850

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory : Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory : Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory : Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

06/04/08

Technical Report for

Thermal Energy Cooperative

Thermal Energy Cooperative

Accutest Job Number: T22284

Sampling Date: 05/21/08

Report to:

Thermal Energy Cooperative

cmichalak@teco.tmc.edu

ATTN: Charles W. Michalak

Total number of pages in report: **31**

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: Sylvia Garza 713-271-4700

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8

Table of Contents

-1-

Section 1: Sample Summary **3**
Section 2: Sample Results **4**
2.1: T22284-1: SKIMMER PIT MUD 5
Section 3: Misc. Forms 8
3.1: Chain of Custody 9
Section 4: GC/MS Semi-volatiles - QC Data Summaries **11**
4.1: Method Blank Summary 12
4.2: Blank Spike Summary 13
4.3: Matrix Spike/Matrix Spike Duplicate Summary 14
Section 5: General Chemistry - QC Data Summaries **15**
5.1: Duplicate Results Summary 16
Section 6: Misc. Forms (Accutest Laboratories Southeast, Inc.) **17**
6.1: Chain of Custody 18
Section 7: Metals Analysis - QC Data (Accutest Laboratories Southeast, Inc.) **20**
7.1: Prep QC MP14480: As,Ba,Cd,Cr,Pb,Se,Ag 21
7.2: Prep QC MP14483: Hg 25
Section 8: General Chemistry - QC Data (Accutest Laboratories Southeast, Inc.) **30**
8.1: Method Blank and Spike Results Summary 31

EPAHO106001613

Accutest Laboratories

Sample Summary

Thermal Energy Cooperative

Thermal Energy Cooperative

Job No: T22284

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
T22284-1	05/21/08	08:00	CM	05/22/08	SO	Soil	SKIMMER PIT MUD

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

EPAHO106001614

Sample Results

Report of Analysis

EPAHO106001615

Accutest Laboratories

Report of Analysis

Client Sample ID:	SKIMMER PIT MUD		
Lab Sample ID:	T22284-1	**Date Sampled:**	05/21/08
Matrix:	SO - Soil	**Date Received:**	05/22/08
Method:	SW846 8270C SW846 3510C	**Percent Solids:**	100.0
Project:	Thermal Energy Cooperative		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H27334.D	1	05/29/08	SC	05/29/08	OP9773	EH1514
Run #2							

	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate **TCLP Leachate method SW846 1311**

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.050	0.012	mg/l	
	3&4-Methylphenol	ND	D024	200	0.050	0.011	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.25	0.040	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.018	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.015	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.050	0.015	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.050	0.024	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.050	0.019	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.050	0.019	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.017	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.050	0.014	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.050	0.0087	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	59%		10-66%
4165-62-2	Phenol-d5	57% [a]		10-53%
118-79-6	2,4,6-Tribromophenol	80%		32-128%
4165-60-0	Nitrobenzene-d5	69%		29-115%
321-60-8	2-Fluorobiphenyl	59%		34-113%
1718-51-0	Terphenyl-d14	82%		12-145%

(a) Biased high, limits still being evaluated.

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

EPAHO106001616

Accutest Laboratories

Report of Analysis

Client Sample ID:	SKIMMER PIT MUD		
Lab Sample ID:	T22284-1	**Date Sampled:**	05/21/08
Matrix:	SO - Soil	**Date Received:**	05/22/08
		Percent Solids:	100.0
Project:	Thermal Energy Cooperative		

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	0.064	D004	5.0	0.010	mg/l	1	05/30/08	05/30/08	AFL	SW846 6010B [1]	SW846 3010A [3]
Barium [a]	2.2	D005	100	1.0	mg/l	1	05/30/08	05/30/08	AFL	SW846 6010B [1]	SW846 3010A [3]
Cadmium [a]	< 0.0050	D006	1.0	0.0050	mg/l	1	05/30/08	05/30/08	AFL	SW846 6010B [1]	SW846 3010A [3]
Chromium [a]	0.18	D007	5.0	0.010	mg/l	1	05/30/08	05/30/08	AFL	SW846 6010B [1]	SW846 3010A [3]
Lead [a]	< 0.050	D008	5.0	0.050	mg/l	1	05/30/08	05/30/08	AFL	SW846 6010B [1]	SW846 3010A [3]
Mercury [a]	< 0.010	D009	0.20	0.010	mg/l	1	06/02/08	06/02/08	AFL	SW846 7470A [2]	SW846 7470A [4]
Selenium [a]	< 0.050	D010	1.0	0.050	mg/l	1	05/30/08	05/30/08	AFL	SW846 6010B [1]	SW846 3010A [3]
Silver [a]	< 0.010	D011	5.0	0.010	mg/l	1	05/30/08	05/30/08	AFL	SW846 6010B [1]	SW846 3010A [3]

(1) Instrument QC Batch: F:MA6501
(2) Instrument QC Batch: F:MA6503
(3) Prep QC Batch: F:MP14480
(4) Prep QC Batch: F:MP14483

(a) Analysis performed at Accutest Laboratories, Orlando, FL.

RL = Reporting Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)

EPAHO106001617

Accutest Laboratories

Report of Analysis

Client Sample ID:	SKIMMER PIT MUD		
Lab Sample ID:	T22284-1	**Date Sampled:**	05/21/08
Matrix:	SO - Soil	**Date Received:**	05/22/08
		Percent Solids:	100.0
Project:	Thermal Energy Cooperative		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	7.8			1	05/30/08 13:45	SS	SW846 CHAP7
Cyanide Reactivity [a]	< 1.5	1.5	mg/kg	1	05/30/08	AFL	SW846 CHAP7
Ignitability (Flashpoint)	> 210		Deg. F	1	05/30/08 13:30	SS	SW846 1010
Solids, Percent	100		%	1	05/23/08	CV	SM 2540B M
Sulfide Reactivity [a]	< 50	50	mg/kg	1	05/31/08	AFL	SW846 CHAP7

(a) Analysis performed at Accutest Laboratories, Orlando, FL.

RL = Reporting Limit

EPAHO106001618

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

EPAHO106001619

CHAIN OF CUSTODY

T22284

Thermal Energy Cooperative 1615 Braeswood Blvd. Houston,TX 77030

Company: Thermal Energy Cooperative
Address: 1615 Braeswood Houston, TX 77030
Site:
PO#: 22606
Sampler:

Record Preservation temperature at the time the sample was placed into the refrigerator.

Sample Identification	Date Collected	Time Collected	Grab	Composite	MATRIX * # of Containers	Container Size	Container Material	Matrix	Use Code from Below	ANALYSIS REQUESTED COD	TOC	BOD & TSS	Oil and Grease	RCI	TCLP	Metals	Remarks	Preserve
SUMMER Pit Mud	5/21/08	8:00AM	✓		1	4T	PL	S						✓	✓	✓	temp: 2.8°C	

Turnaround time Requested (please check)
( ) 24hrs ( ) 72hrs ( ) 48hrs (✓) Standard
(Call AAL to confirm RUSH needs in Advance) 281/367-0065
Results requested by
Send Invoice to: Charlie Michalak
Address: 1615 Braeswood
City/State/Zip Houston, Texas 77030
Fax: 713-791-6736
Phone: 713-791-6700 /281 914 6700 CELL

Relinquished by:	Date	Time	Received by	Date	Time
Charles Michalak	5/22	8:00AM	Manuel Gomez	5/22	9:30AM
Manuel Gamez	5/22	10:12	Allie Franco	5/22/08	10:18

Data package options (please circle if requested)
Specific QC Required? Yes No
Dry Weight Basis? Yes No

Matrix Codes for *
DW Drinking Water
WW Waste Waster
GW Ground Water
O Oil/Organic Liquids
S Soils/Solids
NC Specify in remarks

In case we have any questions when samples arrive call:
Name:
Phone:
Send Report to: Charles Michalak
CMICHALAK@TEEC.THC.EDU

T22284: Chain of Custody
Page 1 of 2

ACCUTEST. Laboratories
T22284

EPAHO106001620

ACCUTEST.

SAMPLE RECEIPT LOG

JOB #: T22284 DATE/TIME RECEIVED: 5/22/08 10:12

CLIENT: Thermal Energy Cooperative INITIALS: CNE

Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):

1. (Y) N Sample received in undamaged condition.
2. (Y) N Samples received within temp. range.
3. (Y) N Sample received with proper pH.
4. (Y) N Sample received in proper containers.
5. (Y) N Sample volume sufficient for analysis.
6. (Y) N Sample received with chain of custody.
7. (Y) N Chain of Custody matches **sample IDs and analysis** on containers.
8. Y (N) Samples Headspace acceptable
9. Y N (NA) Custody seal received intact and tamper not evident on cooler.
10. Y N (NA) Custody seal received intact and tamper not evident on bottles.

SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	PH
1	1	5/21/08	SL	P1000	1U	(1),2,3,4,5,6	(U), <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
				CNE 5/22/08		1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

Comments:

pH of waters checked excluding volatiles

pH of soils N/A

Delivery method: Courier: Client

COOLER TEMP: 2.8 COOLER TEMP:

COOLER TEMP: COOLER TEMP:

Form: SM012, Rev.07/28/05, QAO

3.1 3

T22284: Chain of Custody
Page 2 of 2

ACCUTEST. T22284 Laboratories

EPAHO106001621

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

EPAHO106001622

Method Blank Summary

Job Number: T22284
Account: THEC Thermal Energy Cooperative
Project: Thermal Energy Cooperative

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9773-MB	H27332.D	1	05/29/08	SC	05/29/08	OP9773	EH1514

The QC reported here applies to the following samples: Method: SW846 8270C

T22284-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	50	12	ug/l	
	3&4-Methylphenol	ND	50	11	ug/l	
87-86-5	Pentachlorophenol	ND	250	40	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	50	18	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	50	15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	15	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	50	24	ug/l	
118-74-1	Hexachlorobenzene	ND	50	19	ug/l	
87-68-3	Hexachlorobutadiene	ND	50	19	ug/l	
67-72-1	Hexachloroethane	ND	50	17	ug/l	
98-95-3	Nitrobenzene	ND	50	14	ug/l	
110-86-1	Pyridine	ND	50	8.7	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	83%* [a]	10-66%
4165-62-2	Phenol-d5	73%* [a]	10-53%
118-79-6	2,4,6-Tribromophenol	87%	32-128%
4165-60-0	Nitrobenzene-d5	83%	29-115%
321-60-8	2-Fluorobiphenyl	74%	34-113%
1718-51-0	Terphenyl-d14	86%	12-145%

(a) Biased high, limits still being evaluated.

EPAHO106001623

Blank Spike Summary

Job Number: T22284
Account: THEC Thermal Energy Cooperative
Project: Thermal Energy Cooperative

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9773-BS	H27333.D	1	05/29/08	SC	05/29/08	OP9773	EH1514

The QC reported here applies to the following samples: Method: SW846 8270C

T22284-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
95-48-7	2-Methylphenol	500	247	49	31-95
	3&4-Methylphenol	1000	401	40	28-88
87-86-5	Pentachlorophenol	500	463	93	42-129
95-95-4	2,4,5-Trichlorophenol	500	403	81	40-116
88-06-2	2,4,6-Trichlorophenol	500	437	87	43-113
106-46-7	1,4-Dichlorobenzene	500	342	68	38-95
121-14-2	2,4-Dinitrotoluene	500	490	98	46-125
118-74-1	Hexachlorobenzene	500	466	93	53-117
87-68-3	Hexachlorobutadiene	500	442	88	27-100
67-72-1	Hexachloroethane	500	348	70	35-96
98-95-3	Nitrobenzene	500	427	85	47-107
110-86-1	Pyridine	500	376	75* [a]	10-70

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	72%* [b]	10-66%
4165-62-2	Phenol-d5	77%* [b]	10-53%
118-79-6	2,4,6-Tribromophenol	97%	32-128%
4165-60-0	Nitrobenzene-d5	94%	29-115%
321-60-8	2-Fluorobiphenyl	83%	34-113%
1718-51-0	Terphenyl-d14	92%	12-145%

(a) Not detected in associated samples.
(b) Biased high, limits still being evaluated.

EPAHO106001624

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T22284
Account: THEC Thermal Energy Cooperative
Project: Thermal Energy Cooperative

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP9773-MS	H27341.D	1	05/29/08	SC	05/29/08	OP9773	EH1514
OP9773-MSD	H27342.D	1	05/29/08	SC	05/29/08	OP9773	EH1514
T22305-1	H27335.D	1	05/29/08	SC	05/29/08	OP9773	EH1514

The QC reported here applies to the following samples: Method: SW846 8270C

T22284-1

CAS No.	Compound	T22305-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
95-48-7	2-Methylphenol	ND		500	271	54	262	52	3	31-105/31
	3&4-Methylphenol	ND		1000	401	40	357	36	12	32-105/30
87-86-5	Pentachlorophenol	ND		500	569	114	535	107	6	52-144/18
95-95-4	2,4,5-Trichlorophenol	ND		500	437	87	479	96	9	40-121/22
88-06-2	2,4,6-Trichlorophenol	ND		500	453	91	487	97	7	42-119/22
106-46-7	1,4-Dichlorobenzene	ND		500	403	81	326	65	21	30-104/36
121-14-2	2,4-Dinitrotoluene	ND		500	474	95	489	98	3	41-128/23
118-74-1	Hexachlorobenzene	ND		500	454	91	497	99	9	42-128/21
87-68-3	Hexachlorobutadiene	ND		500	438	88	421	84	4	26-102/28
67-72-1	Hexachloroethane	ND		500	358	72	333	67	7	27-107/30
98-95-3	Nitrobenzene	ND		500	424	85	431	86	2	37-115/26
110-86-1	Pyridine	ND		500	477	95*	429	86*	11	15-71/48

CAS No.	Surrogate Recoveries	MS	MSD	T22305-1	Limits
367-12-4	2-Fluorophenol	87%* [a]	77%* [a]	78%* [a]	10-66%
4165-62-2	Phenol-d5	83%* [a]	76%* [a]	65%* [a]	10-53%
118-79-6	2,4,6-Tribromophenol	101%	109%	116%	32-128%
4165-60-0	Nitrobenzene-d5	92%	87%	91%	29-115%
321-60-8	2-Fluorobiphenyl	90%	89%	85%	34-113%
1718-51-0	Terphenyl-d14	102%	101%	106%	12-145%

(a) Biased high, limits still being evaluated.

EPAHO106001625

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

EPAHO106001626

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T22284
Account: THEC - Thermal Energy Cooperative
Project: Thermal Energy Cooperative

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Corrosivity as pH	GN14214	T22284-1		7.8	7.9		0-%
Ignitability (Flashpoint)	GN14211	T22284-1	Deg. F	>210	>210	0.0	0-20%
Solids, Percent	GN14161	T22288-7	%	83.5	84	0.6	0-20%

Associated Samples:
Batch GN14161: T22284-1
Batch GN14211: T22284-1
Batch GN14214: T22284-1
(*) Outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Chain of Custody

EPAHO106001628

SUB COC

T22284

Page 1 of

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job #

Client / Reporting Information

Company Name: ACCUTEST FLORIDA
E-Mail:
Address:
City: State:
Phone No.: Fax No.:
Samplers's Name:

Project Information

Report to: sylviag@accutest.com
Bill to: Invoice Attn.:
Address:
City: State: Zip:
Phone No.: Fax No.:
Client Purchase Order #:

Requested Analyses

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Wastewater
SO - Soil
SL - Sludge
OI - Oil
LIQ - Other Liquid
SOL - Other Solid

Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Matrix	# of bottles	Number of preserved bottles: HCl	H2SO4	HNO3	NaOH	ZnOAc	NaHSO4	MEOH	NONE	TCLP METALS	CREAC	SREAC	LAB USE ONLY
	T22284-1	5/21/2008		SO	1									X	X	X	

Turnaround Time (Business days)

- [ ] 10 Day *STANDARD*
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *EMERGENCY*
- [ ] 2 Day *EMERGENCY*
- [ ] 1 Day *EMERGENCY*
- [ ] Other

Approved By:/ Date: MAY 30th

Real time analytical data available via Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Data Package
- [ ] State Forms
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results & Standard QC

Comments / Remarks

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Cassie Escatto	5/21/08 17:30	1 FEDEX	2 FEDEX		2 Felipe Montenegro 1000 5-28-08
	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3			3	4		4
	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp.
5			5		☐	☐ 2.8

6.1

6

T22284: Chain of Custody
Page 1 of 2
Accutest Laboratories Southeast, Inc.

EPAHO106001629

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: T22284 CLIENT: AIGC PROJECT: T22284

DATE/TIME RECEIVED: 05-28-08 1000 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2.8

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 7920 6256 7664

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [X] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [X] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OF LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE F.M. 05·28·08 TECHNICIAN SIGNATURE/DATE VC 5-28-08 ASBD 12/17/07

6.1 6

T22284: Chain of Custody
Page 2 of 2

EPAHO106001630

Metals Analysis

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14480
Matrix Type: LEACHATE

Methods: SW846 6010B
Units: mg/l

Prep Date:			05/30/08		05/30/08	
Metal	RL	IDL	MB raw	final	MB raw	final
Aluminum	0.20	.048				
Antimony	0.0060	.0033				
Arsenic	0.010	.0037	-0.0043	<0.010	-0.0022	<0.010
Barium	1.0	.005	0.000090	<1.0	0.0013	<1.0
Beryllium	0.0050	.001				
Cadmium	0.0050	.001	0.000080	<0.0050	0.00013	<0.0050
Calcium	5.0	.1				
Chromium	0.010	.00092	0.00017	<0.010	0.0013	<0.010
Cobalt	0.050	.001				
Copper	0.025	.0012				
Iron	0.30	.014				
Lead	0.050	.0021	0.0014	<0.050	0.0023	<0.050
Magnesium	5.0	.1				
Manganese	0.015	.001				
Molybdenum	0.050	.0012				
Nickel	0.040	.001				
Selenium	0.050	.004	0.0016	<0.050	0.0087	<0.050
Silver	0.010	.00077	-0.000010	<0.010	-0.00016	<0.010
Sodium	10	.5				
Tin	0.050	.0024				
Vanadium	0.050	.001				
Zinc	0.10	.005				

Associated samples MP14480: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

EPAHO106001632

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14480
Matrix Type: LEACHATE

Methods: SW846 6010B
Units: mg/l

Prep Date:				05/30/08				05/30/08	
Metal	F57791-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits	T22284-1 Original	DUP	RPD	QC Limits
Aluminum									
Antimony									
Arsenic	0.0	2.0	2.0	100.0	80-120	0.064	0.065	1.6	0-20
Barium	0.015	2.0	2.0	99.3	80-120	2.2	2.2	0.0	0-20
Beryllium									
Cadmium	0.30	0.37	0.050	140.0(a)	80-120	0.0034	0.0023	38.6 (b)	0-20
Calcium									
Chromium	0.0055	0.20	0.20	97.3	80-120	0.18	0.19	5.4	0-20
Cobalt									
Copper									
Iron									
Lead	0.027	0.51	0.50	96.6	80-120	0.0	0.0026	200.0(b)	0-20
Magnesium									
Manganese									
Molybdenum									
Nickel									
Selenium	0.0095	2.2	2.0	109.5	80-120	0.0069	0.0056	20.8 (b)	0-20
Silver	0.0	0.049	0.050	98.0	80-120	0.00096	0.0	200.0(b)	0-20
Sodium									
Tin									
Vanadium									
Zinc									

Associated samples MP14480: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
(b) RPD acceptable due to low duplicate and sample concentrations.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14480
Matrix Type: LEACHATE

Methods: SW846 6010B
Units: mg/l

Prep Date:		05/30/08				05/30/08		
Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic	1.8	2.0	90.0	80-120	2.0	2.0	100.0	80-120
Barium	1.9	2.0	95.0	80-120	2.0	2.0	100.0	80-120
Beryllium								
Cadmium	0.050	0.050	100.0	80-120	0.049	0.050	98.0	80-120
Calcium								
Chromium	0.20	0.20	100.0	80-120	0.19	0.20	95.0	80-120
Cobalt								
Copper								
Iron								
Lead	0.49	0.50	98.0	80-120	0.47	0.50	94.0	80-120
Magnesium								
Manganese								
Molybdenum								
Nickel								
Selenium	1.8	2.0	90.0	80-120	2.1	2.0	105.0	80-120
Silver	0.046	0.050	92.0	80-120	0.048	0.050	96.0	80-120
Sodium								
Tin								
Vanadium								
Zinc								

Associated samples MP14480: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

EPAHO106001634

SERIAL DILUTION RESULTS SUMMARY

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14480
Matrix Type: LEACHATE

Methods: SW846 6010B
Units: ug/l

Prep Date: 05/30/08

Metal	F57791-1 Original	SDL 1:5	RPD	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	14.8	0.00	100.0(a)	0-10
Beryllium				
Cadmium	303	336	10.7*(b)	0-10
Calcium				
Chromium	5.54	7.04	27.1 (a)	0-10
Cobalt				
Copper				
Iron				
Lead	27.5	31.5	14.4 (a)	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Selenium	9.49	0.00	100.0(a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium				
Tin				
Vanadium				
Zinc				

Associated samples MP14480: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

EPAHO106001635

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14483 Methods: SW846 7470A
Matrix Type: LEACHATE Units: mg/l

Prep Date: 06/02/08 06/02/08

Metal	RL	IDL	MB raw	final	MB raw	final
Mercury	0.0010	.00011	-0.000032	<0.0010	-0.00031	<0.010

Associated samples MP14483: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

EPAHO106001636

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14483
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 06/02/08 06/02/08

Metal	T22284-1 Original	DUP	RPD	QC Limits	T22284-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0	0.0	NC	0-20	0.0	0.030	0.030	100.0	80-120

Associated samples MP14483: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.2.2
7

EPAHO106001637

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14483
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 06/02/08

Metal	T22284-1 Original	DUP	RPD	QC Limits
Mercury	0.0	0.0	NC	0-20

Associated samples MP14483: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.2.2

7

EPAHO106001638

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14483
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 06/02/08 06/02/08

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0029	0.0030	96.7	80-120	0.030	0.030	100.0	80-120

Associated samples MP14483: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.3

7

EPAHO106001639

SERIAL DILUTION RESULTS SUMMARY

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

QC Batch ID: MP14483
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: ug/l

Prep Date: 06/02/08

Metal	T22284-1 Original	SDL 1:5	RPD	QC Limits
Mercury	0.00	0.00	NC	0-10

Associated samples MP14483: T22284-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.4

7

EPAHO106001640

General Chemistry

QC Data Summaries

(Accutest Laboratories Southeast, Inc.)

8

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

EPAHO106001641

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T22284
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: THEC: Thermal Energy Cooperative

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Cyanide Reactivity	GP11149/GN30627	1.5	<1.5	mg/kg	5.00	2.9	58.7	0-100%
Sulfide Reactivity	GP11152/GN30633	50	<50	mg/kg	53.7	56.0	104.0	0-100%

Associated Samples:
Batch GP11149: T22284-1
Batch GP11152: T22284-1
(*) Outside of QC limits

EPAHO106001642

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$55/dm

2. **Contamination Limits (maximum limit before surcharges apply):**

None

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None-see lab analysis

5. **Treatment and Handling Protocol:**

Put in class 1 sludge or solids box. Which ever is applicable based on amount of free liquid.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001643

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable):**

Na

2851
Tenaris

EPAHO106001645

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/19/2008**

Dear **Luke Bibler**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2851

Expiration Date 6/19/2010

Generator: Tenaris
Address: 699 FM 3083
Conroe, TX 77301

Waste Information

Name of Waste: Hocut 767-MT
TCEQ Waste Code #: 00060011
Container Type:
Detailed Description of Process Generating Waste:
unused/out of date material
Color: blue **Odor:** bland **pH:** 9-9.5
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
level d

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

YRP
OK

DC

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Tenaris Conroe
Address: 699 FM 3083
City: Conroe **State:** TX **Zip:** 77301
Contact: Luke Bibler **Title:** Environmental
Phone Number: 713-767-4470 **Fax Number:**
24/hr Phone Number:
US EPA ID No: TXD942559080
State ID No: 31678 **SIC Code:** NA

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Hocut 767-MT (See MSDS)
Detailed Description of Process Generating Waste

unused/out of date material

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Blue **Odor:** bland

Specific Gravity (water=1): 1.07 **Density:** 8.92 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type: ☑ **Drum** ☐ **Tote** ☐ **Truck** ☐ **Other (explain)**

Frequency: ☐ **Weekly** ☐ **Monthly** ☑ **Yearly** ☐ **One-Time**
Quantity: 5

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043(please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: COO60011

Proper US DOT Shipping Name: Non-RCRA, Non-DOT regulated material
Class: na **UN/NA:** na **PG:** na **RQ:** na

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>140		9.0-9.5		0	mg/l	0	mg/l	0-2	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
<1500	mg/l	0	mg/l	0	mg/l	0	mg/l	0	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Hocut 767-MT	98-100	%
water	0-1	%
solids	0-2	%

SECTION 5: Safety Related Data
If the handling of this waste requires the use of special protective equipment, please explain.
level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. none MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Sauna Baig **Date:** 6/9/2008

Printed Name/Title: Sauna Baig / Environmental

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]
Date: 6-19-08 ☑ Approved ☐ Rejected
Approval Number: 2851

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$45.00/drum recycle, Freight: $550.00/load

2. Contamination Limit (maximum limit before surchages apply):

NA

3. Surcharge Pricing:

NA

4. Special Testing Requirements:

None

5. Treatment and Handling Protocol:

mix with bulk load to system 1 - VERY ODOROUS!) Do not mix with acids or oxidizers. Handle w/ care. this material can have very high Ammonia. Rinse drums to system 1 processing trailer.

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

NA

8. Management for Product Recovered/Recycled (if applicable)

NA

Tenaris

Houghton International Inc.

Revision Date : 09/18/2001

Material Safety Data Sheet
HOCUT 767-MT

1. Chemical Product and Company Identification

Product Name	HOCUT 767-MT	Emergency Phone Number	24 HOUR - (800) 424-9300 (CHEMTREC)
Company Name	Houghton International Inc. Madison & Van Buren Aves Valley Forge, PA 19482	FAX	(610) 666-1376
Website	www.houghtonintl.com	Customer Service	(888) 459-9844
Telephone	(610) 666-4000		

2. Hazardous Ingredients

Component	Cas No	% by Weight	Hazards
Monoethanolamine	141-43-5	< 1	TLV: 3 ppm PEL: 3 ppm STEL: 6 ppm Other: N/E
Triethanolamine	102-71-6	1-10	TLV: 5 mg/m³ PEL: N/E STEL: N/E Other: N/E

N/E - Not Established; N/A - Not Applicable; Mfr - Manufacturer Recommendation

3. Hazards Identification

Primary Entry Routes	EYES, SKIN, INHALATION
Acute Effects	
Inhalation	MAY IRRITATE UPPER RESPIRATORY SYSTEM.
Eye	MAY CAUSE IRRITATION.
Skin	MAY CAUSE IRRITATION.
Ingestion	MAY CAUSE NAUSEA AND DISCOMFORT.
Carcinogenicity	NO COMPONENT KNOWN TO BE PRESENT IN THIS PRODUCT AT GREATER THAN 0.1% IS LISTED AS A CARCINOGEN BY IARC, NTP OR OSHA.
Medical Conditions Aggravated by LongTerm Exposure	PRE-EXISTING SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE.

EPAHO106001653

3. Hazards Identification - continued

Chronic Effects	UNKNOWN
HMIS:	
Health	1
Flammability	0
Reactivity	0

* indicates that there may be chronic health effects present

4. First Aid Measures

Inhalation	REMOVE TO A SOURCE OF FRESH AIR.
Eye Contact	FLUSH WITH COPIOUS AMOUNTS OF WATER. CONSULT PHYSICIAN.
Skin Contact	FLUSH WITH WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE REUSING.
Ingestion	GIVE WATER OR MILK AND INDUCE VOMITING. CONSULT PHYSICIAN.
Note to Physicians	NO SPECIFIC ANTIDOTE KNOWN. BASED ON INDIVIDUAL REACTIONS OF THE PATIENT, THE PHYSICIAN'S JUDGMENT SHOULD BE USED TO CONTROL SYMPTOMS AND CLINICAL CONDITIONS.

N/A - Not Applicable

5. Fire Fighting Measures

Flash Point	N/A
Autoignition Temperature	N/D
LEL	N/D
UEL	N/D
Extinguishing Media	PRODUCT CONTAINS WATER. IF WATER IS REMOVED, USE CARBON DIOXIDE, DRY CHEMICAL OR FOAM.
Unusual Fire or Explosion Hazards	NONE.
Fire Fighting Instructions	WEAR SELF-CONTAINED BREATHING APPARATUS IN CONFINED SPACES.

EPAHO106001654

5. Fire Fighting Measures - continued

NFPA:

Health	1
Flammability	0
Reactivity	0
Special	N/A

N/A - Not Applicable; ND - Not Determined; > - Greater Than; < - Less Than

6. Accidental Release Measures

Spill or Release Procedures	DILUTE WITH WATER AND MOP UP THOROUGHLY TO AVOID RESIDUAL SLIPPERINESS OR APPLY DRY ABSORBENT MATERIAL AND SWEEP UP.

7. Handling and Storage

Storage and Handling Requirements	AVOID CONTACT WITH STRONG OXIDIZERS. WASH THOROUGHLY AFTER HANDLING. DO NOT ADD NITRITES TO THIS PRODUCT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION.

8. Exposure Controls/Personal Protection

Engineering Controls	GENERAL MECHANICAL VENTILATION IS ADEQUATE.
Personal Protective Equipment	
Eye/Face Protection	SAFETY GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.
Skin Protection	RUBBER GLOVES IF SKIN IS SENSITIVE.
Respiratory Protection	REQUIRED IF THE EXPOSURE LIMITS IN SECTION 2 ARE EXCEEDED.
Other	EYE WASH AND SAFETY SHOWER RECOMMENDED.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, or applying cosmetics.

EPAHO106001655

9. Physical and Chemical Properties

Appearance	BLUE LIQUID	Water Solubility	SOLUBLE
Odor	BLAND ODOR	Boiling Point	215°F
Vapor Pressure (mmHg)	AS WATER	Freezing/ Melting Point	N/D
Vapor Density (Air = 1)	AS WATER	Evaporation Rate (BuAc = 1)	AS WATER
Specific Gravity (Water = 1)	1.07		
pH (Neat)	9.5		
pH (Dilution)			
At Percent	5		
pH	9.0		

N/D - Not Determined; N/A - Not Applicable; > - Greater Than; < - Less Than

10. Stability and Reactivity

Stability	THIS PRODUCT IS STABLE AT ROOM TEMPERATURE IN CLOSED CONTAINERS UNDER NORMAL STORAGE AND HANDLING CONDITIONS.
Chemical Incompatibilities	STRONG OXIDIZERS
Hazardous Decomposition Products	THERMAL: OXIDES OF CARBON AND NITROGEN
Hazardous Polymerization	HAZARDOUS POLYMERIZATION WILL NOT OCCUR.

11. Toxicological Information

NO DATA AVAILABLE

EPAHO106001656

12. Ecological Information

NO DATA AVAILABLE

13. Disposal Considerations

Disposal	FOLLOW PERTINENT REGULATIONS FOR DISPOSAL. IT IS THE RESPONSIBILITY OF THE PRODUCT USER TO DETERMINE, AT THE TIME OF DISPOSAL, WHETHER A MATERIAL CONTAINING THE PRODUCT OR DERIVED FROM THE PRODUCT SHOULD BE CLASSIFIED AS A HAZARDOUS WASTE. (40 CFR 261.20-24)
RCRA Hazardous Waste Number	N/A

14. Transportation Information

Proper Shipping Name	NOT REGULATED BY DOT

15. Regulatory Information

TSCA Section 8(b)	ALL OF THE COMPONENTS IN THIS PRODUCT ARE ON THE TSCA INVENTORY.
CERCLA Reportable Quantity	NONE
SARA Title III, Section 313	THIS PRODUCT CONTAINS NO TOXIC CHEMICAL 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.
Ozone Depleting Substances	THIS PRODUCT WAS NOT MANUFACTURED, DOES NOT CONTAIN, AND WAS NOT PACKAGED USING ANY CLASS I OR CLASS II OZONE DEPLETING SUBSTANCE AS DEFINED BY THE CLEAN AIR ACT.

16. Other Information

Prepared By	GARY CARL
Title	MANAGER, PRODUCT SAFETY

EPAHO106001657

16. Other Information - continued

Disclaimer: The information presented herein has been compiled from sources considered to be dependable and is accurate as of the date issued. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use are beyond our control, Houghton International makes no warranty regarding the accuracy of such data or its suitability for any purchaser's use or for any consequence of its use. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. Safe handling and use remains the responsibility of the purchaser and the purchaser has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. Houghton International assumes no responsibility for injury to the recipient or to third persons or for any damage to any property and the recipient assumes all such risks.

2852
Zach System Corp (LaPorte)

EPAHO106001659

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/19/2008**

Dear **Ronald Smith**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2852

Expiration Date 6/19/2010

Generator: ZaCh System Corp. (La Porte)
Address: 914 South 16th Street
La Porte, TX 77571

Waste Information

Name of Waste: NMP Step 3 and first part of step 4
TCEQ Waste Code #: 0088203H
Container Type:
Detailed Description of Process Generating Waste:
Off spec product from a pharmaceutical manfacturing plant
Color: colorless to light brow **Odor:** slight petroleum **pH:** 3-11
Physical State:
Incompatibilities: strong oxidizers
Safety Related Data/Special Handling:
std ppe (rubber gloves, hard hat, goggles)

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

Kelli/Kim
Please attach
MSDS
Thanks

SECTION 1: Generator Information

Company: Zach System Corp.
Address: 914 South 16th Street
City: LaPorte **State:** TX **Zip:** 77571
Contact: Ron Smith **Title:** HS&E Manager
Phone Number: 281-842-0201 **Fax Number:** 281-867-1734
24/hr Phone Number: 281-842-0201
US EPA ID No: TXR000079062
State ID No: 88429 **SIC Code:**

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: NMP Step 3 and first part of Step 4
Detailed Description of Process Generating Waste:

off-spec product from a pharmecutical manufacturing plant

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: colorless to light brown **Odor:** slight petroleum

Specific Gravity (water=1): 0.9 **Density:** 7.5 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☑ Truck ☐ Other (explain)

Frequency: ☑ Weekly ☐ Monthly ☐ Yearly ☐ One-Time
Quantity: 3

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☑ Yes ☐ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☑ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: 0088203H (for recycle)

Proper US DOT Shipping Name: Waste flammable liquids, n.o.s (toluene, heptane)

Class: 3 UN/NA: UN1993 PG: PG II RQ: 1000

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
75-120		3-11		<20	mg/l	<20	mg/l	0-2	%
Oil & Grease		TOC		Zinc		Copper		Nickel	
NA	mg/l	NA	mg/l	NA	mg/l	NA	mg/l	NA	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
EXXSOL Heptane Fluid (see msds)	50-75	%
IPA SG3 (see msds)	40 - 60	%
Toluene	0-5	%
Water	2-10	%
Methanol	0-40	
Xylene	0-20	

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Standard PPE (rubber gloves, hard hat, goggles, etc.)

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS'

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

Strong Oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory*: *Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory*: *Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Ronald Smith **Date:** 6-18-08

Printed Name/Title: RONALD SMITH / EHS MANAGER

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]
Date: 6-19-08 ☑ Approved ☐ Rejected
Approval Number: 2852

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$0.35/gallon; $500/load trans + FSC

2. Contamination Limit (maximum limit before surchages apply):

will update when load arrives

3. Surcharge Pricing:

will update when load arrives

4. Special Testing Requirements:

will update when load arrives

5. Treatment and Handling Protocol:

will update when load arrives; separate light ends, alcohols, + water; Put light ends into restricted light ends

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

will update when load arrives

8. Management for Product Recovered/Recycled (if applicable)

will update when load arrives

CES Environmental Services, Inc.

LDR Notifications/Certifications

1. Generator Information		2. Receiving Facility Information	
Name:	Zach System Corp.	Name:	CES Environmental Services, Inc.
Address:	914 South 16th Street	Address:	4904 Griggs Road
	LaPorte, TX 77571		Houston, TX 77021
EPA ID No.:	TXR000079062	EPA ID No.:	TXD008950461
Manifest No.:			

3. Waste Description at Point of Generation

Line Item	Waste Description	Hazardous Waste Codes	LDR Subcategory	WW / NWW	Underlying Hazardous Constituents [268.2(i)]
1	NPE Step 3	D001	E	NWW	None
2					
3					
4					
5					

4. Waste Disposition

Line Item	Subtitle C Exclusion Subsequent to Point of Generation (if applicable)	Current Disposition of Waste	268.45, Table 1 Technology used to treat debris (if applicable)	Date Shippe
1				
2				
3				
4				
5				

5. Was the waste hazardous at the point of generation but subsequently became excluded from the definition of hazardous waste or exempt from Subtitle C regulation (including characterstic wastes managed in wastewater treatment systems discharging under the CWA)?
☐ Yes ☑ No (If yes, this constituents the 268.7(a)(7) one-time notification.)

6. Waste the waste characterstic at the point of generation, treated onsite to remove the characterstic, and treatment residues then shipped to a Subtitle D land disposal facility? ☐ Yes ☑ No (If yes, complete Certification 1 or 2.)

7. Was the waste "debris" that was hazardous at the point of generation but subsequently became excluded from the definition of hazardous waste under 261.3(f)(1) by treating it using an extraction or destruction technology in 268.45, Table 1? ☐ Yes ☑ No (If yes, complete Certification 3.)

8. Was the waste "debris" that was hazardous at the point of generation but subsequently became excluded from the definition of hazardous waste under 261.3(f)(2) by receiving a "no-longer-contains" determinatin from EPA or the authorized state?
☐ Yes ☑ No (if yes, this constituents the 268.7(d)(1) one-time notification.)

9. Is the waste residue from treating K061, K062 and/or F006 wastes in high-temperature metals recovery (HTMR) units that 1) meets the generic exclusion levels in 261.3(c)(2)(ii)(C), 2) does not exhibit any characterstics, and 3) is shipped to a Subtitle D land disposal facility?
☐ Yes ☑ No (If yes, complete Certification 4.)

10. ☑ Waste that has been treated to remove a characterstic and meets underlying hazardous constituents standards.

I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 to remove the hazardous characterstics and that underlying hazardous constituents, as defined in 268.2(i) have been treated on-site to meet the 268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

Applies to items:

Reference: 268.7(b)(4)(v) and 268.9(d)

11. ☑ Waste that has been treated to remove a characterstic but does not meet underlying hazardous constituents standards.

I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49 to remove the hazardous characterstic. This decharacterized waste contains underyling hazardous constituents that require further treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

Applies to items:

Reference: 268.7(b)(4)(v) and 268.9(d)

12. ☐ Debris that has been treated to meet the alternative treatment standards.

I certify under penalty of law that the debris has been treated in accordance with the requirements of 40 CFR 268.45. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

Applies to items:

Reference: 268.7(b)(4)(v) and 268.9(d)

13. ☐ HTMR residue from treating K061, K062 and/or F006 wastes.

I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characterstic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

Applies to items:

Reference: 268.7(b)(4)(v) and 268.9(d)

Authorized Signature: Ronald Smith **Date:** 6-18-08

Printed Name / Title: RONALD SMITH / EHS MANAGER

CES Environmental Services, Inc.

UNDERLYING HAZARDOUS CONSTITUENTS (UHC)

Generator	Zach System Corp.	**EPA ID Number**	TXR000079062
Mailing Address	914 South 16th Street	**Manifest Number**	
City, State, Zip	LaPorte, TX 77571	**CES Profile Number**	

EPA Waste Codes

D001									

If your waste, at the point of generation, exceeds the limits of the following constituents, then please represent this fact to CES Environmental Services, Inc. by checking the applicable box listed below.

Does this waste contain one or more of the constituents listed on pages 1, 2, 3 or 4? ☑ YES ☐ NO

If "Yes", check applicable constituents and then sign and date the form. If "No", then sign and date the form.

	Description	CAS No. [1]	Wastewater mg/l [2]	Non-Wastewater mg/kg
✓	***I. Organic Constituents***			
☐	2-Acetylaminofluorene	53-96-3	0.059	140
☐	4-Aminobiphenyl	92-67-1	0.13	NA
☐	o-Anisidine (2-methoxyaniline)	90-04-0	0.010	0.66
☐	Acenaphthene	83-32-9	0.059	3.4
☐	Acenaphthylene	208-96-8	0.059	3.4
☐	Acetone	67-64-1	0.28	160
☐	Acetonitrile	75-05-8	5.6	38
☐	Acetophenone	96-86-2	0.01	9.7
☐	Acrolein	107-02-8	0.29	NA
☐	Acrylamide	79-06-1	19	23
☐	Acrylonitrile	107-13-1	0.24	84
☐	Aldicarb sulfone [6]	1646-88-4	0.056	0.28
☐	Aldrin	309-00-2	0.021	0.066
☐	alpha-BHC	319-84-6	0.00014	0.066
☐	Aniline	62-53-3	0.81	14
☐	Anthracene	120-12-7	0.059	3.4
☐	Aramite	140-57-8	0.36	NA
☐	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	2.5
☐	4-Bromophenyl phenyl ether	101-55-3	0.055	15
☐	Barban [6]	101-27-9	0.056	1.4
☐	Bendiocarb [6]	22781-23-3	0.056	1.4
☐	Benomyl [6]	17804-35-2	0.056	1.4
☐	Benz(a)anthracene	56-55-3	0.059	3.4
☐	Benzal chloride	98-87-3	0.055	6
☐	Benzene	71-43-2	0.14	10
☐	Benzo(a)pyrene	50-32-8	0.061	3.4
☐	Benzo(b)fluoranthene	205-99-2	0.11	6.8
☐	Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
☐	Benzo(k)fluoranthene	207-08-9	0.11	6.8
☐	beta-BHC	319-85-7	0.00014	0.066
☐	bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
✓				
☐	bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
☐	bis-(2-Chloroethoxy)methane	111-91-1	0.036	7.2
☐	bis-(2-Chloroethyl)ether	111-44-4	0.033	6
☐	Bromodichloromethane	75-27-4	0.35	15
☐	Bromoform (Tribromomethane)	75-25-2	0.63	15
☐	Bromomethane/Methyl bromide	74-83-9	0.11	15
☐	Butyl benzyl phthalate	85-68-7	0.017	28
☐	Butylate [6]	2008-41-5	0.042	1.4
☐	2-chloro-1,3-butadiene	126-99-8	0.057	0.28
☐	2-Chloroethyl vinyl ether	110-75-8	0.062	NA
☐	2-Chloronaphthalene	91-58-7	0.055	5.6
☐	2-Chlorophenol	95-57-8	0.044	5.7
☐	3-Chloropropylene	107-05-1	0.036	30
☐	Carbaryl [6]	63-25-2	0.006	0.14
☐	Carbenzadim [6]	10605-21-7	0.056	1.4
☐	Carbofuran [6]	1563-66-2	0.006	0.14
☐	Carbofuran phenol [6]	1563-38-8	0.056	1.4
☐	Carbon disulfide	75-15-0	3.8	4.8mg/l
☐	Carbon tetrachloride	56-23-5	0.057	6
☐	Carbosulfan [6]	55285-14-8	0.028	1.4
☐	Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
☐	Chlorobenzene	108-90-7	0.057	6
☐	Chlorobenzilate	510-15-6	0.1	NA
☐	Chlorodibromomethane	124-48-1	0.057	15
☐	Chloroethane	75-00-3	0.27	6
☐	Chloroform	67-66-3	0.046	6
☐	Chloromethane (Methyl chloride)	74-87-3	0.19	30
☐	Chrysene	218-01-9	0.059	3.4
☐	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
☐	m-Cumenyl methylcarbamate [6]	64-00-6	0.056	1.4

EPAHO106001668

	I. Organic Constituents (continued)			
☐	cis-1,3-Dichloropropylene	10061-01-5	0.036	18
☐	Cyclohexanone	108-94-1	0.36	0.75 mg/l TCLP
☐	1,1-Dichloroethane	75-34-3	0.059	6
☐	1,1-Dichloroethylene	75-35-4	0.025	6
☐	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15
☐	1,2-Dichloroethane	107-06-2	0.21	6
☐	trans-1,2-Dichloroethylene	156-60-5	0.054	30
☐	1,2-Dichloropropane	78-87-5	0.85	18
☐	1,2-Diphenylhydrazine	122-66-7	0.087	NA
☐	trans-1,3-Dichloropropylene	10061-02-6	0.036	18
☐	1,4-Dinitrobenzene	100-25-4	0.32	2.3
☐	1,4-Dioxane	123-91-1	12	170
☐	2,4-Dichlorophenol	120-83-2	0.044	14
☐	2,4-Dichlorophenoxyacetic acid/2,4-D	94-75-7	0.72	10
☐	2,4-Dinitrophenol	51-28-5	0.12	160
☐	2,4-Dinitrotoluene	121-14-2	0.32	140
☐	2,6-Dichlorophenol	87-65-0	0.044	14
☐	2,6-Dinitrotoluene	606-20-2	0.55	28
☐	2-4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	0.72	10
☐	2-4-Dimethyl phenol	105-67-9	0.036	14
☐	2,4-Dimethylaniline (2,4-xylidine)	95-68-1	0.010	0.66
☐	4,6-Dinitro-o-cresol	534-52-1	0.28	160
☐	delta-BHC	319-86-8	0.023	0.066
☐	di-n-butyl phthalate	84-74-2	0.057	28
☐	Di-n-octyl phthalate	117-84-0	0.017	28
☐	Di-n-propylnitrosamine	621-64-7	0.4	14
☐	Dibenz(a,e)pyrene	192-65-4	0.061	NA
☐	Dibenz(a,h)anthracene	53-70-3	0.055	8.2
☐	Dibromomethane	74-95-3	0.11	15
☐	Dichlorodifluoromethane	75-71-8	0.23	7.2
☐	Dieldrin	60-57-1	0.017	0.13
☐	Diethyl phthalate	84-66-2	0.2	28
☐	Dimethyl phthalate	131-11-3	0.047	28
☐	Diphenylamine	122-39-4	0.92	13
☐	Diphenylnitrosamine	86-30-6	0.92	13
☐	Disulfoton	298-04-4	0.017	6.2
☐	Dithiocarbamates (total) [6]	137-30-4	0.028	28
☐	Endosulfan I	959-98-8	0.023	0.066
☐	Endosulfan II	33213-65-9	0.029	0.13
☐	Endosulfan sulfate	1031-07-8	0.029	0.13
☐	Endrin	72-20-8	0.0028	0.13
☐	Endrin aldehyde	7421-93-4	0.025	0.13
☐	EPTC [6]	759-94-4	0.042	1.4
☐	Ethyl acetate	141-78-6	0.34	33
☐	Ethyl benzene	100-41-4	0.057	10
☐	Ethyl cyanide/propanenitrile	107-12-0	0.24	360
☐	Ethyl ether	60-29-7	0.12	160
☐	Ethyl methacrylate	97-63-2	0.14	160
☐	Ethyl Oxide	75-21-8	0.12	NA
☐	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
☐	Famphur	52-85-7	0.017	15
☐	Fluoranthene	206-44-0	0.068	3.4
☐	Fluorene	86-73-7	0.059	3.4
☐	Formetanate hydrochloride [6]	23422-53-9	0.056	1.4
☐	gamma-BHC	58-89-9	0.0017	0.066
☐	Heptachlor	76-44-8	0.0012	0.066
☐	Heptachlor epoxide	1024-57-3	0.016	0.066
☐	Hexachlorobenzene	118-74-1	0.055	10
☐	Hexachlorobutadiene	87-68-3	0.055	5.6
☐	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
☐	Hexachloroethane	67-72-1	0.055	30
☐	Hexachloropropylene	1888-71-7	0.035	30
☐	HxCDDs (All Hexachlorodibenzo-p-dioxins)	N/A	0.000063	0.001
☐	HxCDFs (All Hexachlorodibenzofurans)	N/A	0.000063	0.001
☐	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	35822-46-9	0.000035	0.0025
☐	1,2,3,4,6,7,8-Heptachlorodibenzofuran	67562-39-4	0.000035	0.0025
☐	1,2,3,4,7,8,9-Heptachlorodibenzofuran	55673-89-7	0.000035	0.0025
☐	Ideno (1,2,3-c,d) pyrene	193-39-5	0.0055	3.4
☐	Iodomethane	74-88-4	0.19	65
☐	Isobutyl alcohol	78-83-1	5.6	170
☐	Isodrin	465-73-6	0.021	0.066
☐	Isosafrole	120-58-1	0.081	2.6
☐	Kepone	143-50-0	0.0011	0.13
☐	3-Methylcholanthrene	56-49-5	0.0055	15
☐	4,4-Methylene bis (2-chloroaniline)	101-14-4	0.5	30
☐	m-Dichlorobenzene	541-73-1	0.036	6
☐	Methacrylonitrile	126-98-7	0.24	84
☐	Methanol	67-56-1	5.6	0.75 mg/l TCLP
☐	Methiocarb [6]	2032-65-7	0.056	1.4
☐	Methomyl [6]	16752-77-5	0.028	0.14
☐	Methoxychlor	72-43-5	0.25	0.18
☐	Methapyrilene	91-80-5	0.081	1.5
☐	Methyl ethyl ketone	78-93-3	0.28	36
☐	Methyl isobutyl ketone	108-10-1	0.14	33
☐	Methyl methacrylate	80-62-6	0.14	160
☐	Methyl methansulfonate	66-27-3	0.018	NA
☐	Methyl parathion	298-00-0	0.014	4.6
☐	Methylene chloride	75-09-2	0.089	30
☐	Metolcarb [6]	1129-41-5	0.056	1.4
☐	Mexacarbate [6]	315-18-4	0.056	1.4
☐	Molinate [6]	2212-67-1	0.042	1.4
☐	2-Naphthylamine	91-59-8	0.52	NA
☐	5-Nitro-o-toluidine	99-55-8	0.32	28
	n-Butyl alcohol	71-36-3	5.6	2.6
	N-Nitroso-di-n-butylamine	924-16-3	0.4	17
	N-Nitrosodiethylamine	55-18-5	0.4	28
	N-Nitrosodimethylamine	62-75-9	0.4	2.3
	N-Nitrosomethylethylamine	10595-95-6	0.4	2.3
	N-Nitrosomorpholine	59-89-2	0.4	2.3
	N-Nitrosopiperidine	100-75-4	0.013	35
	N-Nitrosopyrrolidine	930-55-2	0.013	35
	Naphthalene	91-20-3	0.059	5.6
	Nitrobenzene	98-95-3	0.068	14
	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	3268-87-9	0.000063	0.005

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I. Organic Constituents (continued)			
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	0.000063	0.005
o,p-DDD	53-19-0	0.023	0.087
o,p-DDE	3424-82-6	0.031	0.087
o,p-DDT	789-02-6	0.0039	0.087
o-Cresol	95-48-7	0.11	5.6
o-Dichlorobenzene	95-50-1	0.088	6
o-Nitroaniline	88-74-4	0.27	14
o-Nitrophenol	88-75-5	0.028	13
Oxamyl [6]	23135-22-0	0.056	0.28
1,3-Phenylenediamine	108-45-2	0.010	0.66
p-Cresidine	120-71-8	0.010	0.66
p,p-DDD	72-54-8	0.023	0.087
p,p-DDE	72-55-9	0.031	0.087
p,p-DDT	50-29-3	0.0039	0.087
p-Chloro-m-cresol	59-50-7	0.018	14
p-Chloroaniline	106-47-8	0.46	16
p-Cresol	106-44-5	0.77	5.6
(difficult to distinguish from m-cresol)			
p-Dichlorobenzene	106-46-7	0.09	6
p-Dimethylaminoazobenzene	60-11-7	0.13	NA
p-Nitroaniline	100-01-6	0.028	28
p-Nitrophenol	100-02-7	0.12	29
Parathion	56-38-2	0.014	4.6
Pebulate [6]	1114-71-2	0.042	1.4
PeCDDs (All Pentachlorodibenzo-p-dioxins)	N/A	0.000063	0.001
PeCDFs (All Pentachlorodiebenzofurans)	N/A	0.000035	0.001
Pentachlorobenzene	608-93-5	0.055	10
Pentachloroethane	76-01-7	0.055	6
Pentachloronitrobenzene	82-68-8	0.055	4.8
Pentachlorophenol	87-86-5	0.089	7.4
Phenacetin	62-44-2	0.081	16
Phenanthrene	85-01-8	0.059	5.6
Phenol	108-95-2	0.039	6.2
Phorate	298-02-2	0.021	4.6
Phthalic acid	100-21-0	0.055	28
Phthalic anhydride	85-44-9	0.055	28
Physostigmine [6]	57-47-6	0.056	1.4
Physostigmine salicylate [6]	57-64-7	0.056	1.4
Promecarb [6]	2631-37-0	0.056	1.4
Pronamide	23950-58-5	0.093	1.5
Propham [6]	122-42-9	0.056	1.4
Propoxur [6]	114-26-1	0.056	1.4
Prosulfocarb [6]	52888-80-9	0.042	1.4
Pyrene	129-00-0	0.067	8.2
Pyridine	110-86-1	0.014	16
Safrole	94-59-7	0.081	22
Silvex (2,4,5-TP)	93-72-1	0.72	7.9
1,1,1,2-Tetrachloroethane	630-20-6	0.057	6
1,1,1-Trichloroethane	71-55-6	0.054	6
1,1,2,2-Tetrachloroethane	79-34-5	0.057	6
1,1,2-Trichloro-2,2,2-trifluoroethane	76-13-1	0.057	30
1,1,2-Trichloroethane	79-00-5	0.054	6
1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
1,2,4-Trichlorobenzene	120-82-1	0.055	19
1,2,3-Trichloropropane	96-18-4	0.85	30
2,3,4,6-Tetrachlorophenol	58-90-2	0.03	7.4
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	93-76-5	0.72	7.9
2,4,5-Trichlorophenol	95-95-4	0.18	7.4
2,4,6-Trichlorophenol	88-06-2	0.035	7.4
TCDDs (All Tetrachlorodibenzo-p-dioxins)	N/A	0.000063	0.001
TCDFs (All Tetrachlorodibenzofurans)	N/A	0.000063	0.001
Tetrachloroethylene	127-18-4	0.056	6
Thiodicarb [6]	59669-26-0	0.019	1.4
Thiophanate-methyl [6]	23564-05-8	0.056	1.4
Toluene	108-88-3	0.08	10
Total PCBs	1336-36-3	0.1	10
(sum of all PCB isomers, or all Aroclors)			
Toxaphene	8001-35-2	0.0095	2.6
Triallate [6]	2303-17-8	0.042	1.4
Trichloroethylene	79-01-6	0.054	6
Trichloromonofluoromethane	75-69-4	0.02	30
Triethylamine [6]	101-44-8	0.081	1.5
tris-(2,3-Dibromopropyl) phosphate	126-72-7	0.11	0.1
Vernolate [6]	1929-77-7	0.042	1.4
Vinyl chloride	75-01-4	0.27	6
Xylenes-mixed isomers	1330-20-7	0.32	30
(sum of o-,m-,and p-xylene concentrations)			

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	II. Inorganic Constituents			
☐	Antimony	7440-36-0	1.9 *	1.15 mg/l TCLP
☐	Arsenic	7440-38-2	1.4 *	5.0 mg/l TCLP
☐	Barium	7440-39-3	1.2 *	21.0 mg/l TCLP
☐	Beryllium	7440-41-7	0.82 *	1.22 mg/l TCLP
☐	Cadmium	7440-43-9	0.69 *	0.11 mg/l TCLP
☐	Chromium (Total)	7440-47-3	2.77 *	0.60 mg/l TCLP
☐	Cyanides (Amenable) [4]	57-12-5	0.86	30
☐	Cyanides (Total) [4]	57-12-5	1.2	590
☐	Fluoride [5]	16984-48-8	35	NA
☐	Lead	7439-92-1	0.69 *	0.75 mg/l TCLP
☐	Mercury - All others	7439-97-6	0.15 *	0.025 mg/l TCLP
☐	Mercury - Retort nonwastewater	7439-97-6	NA *	0.20 mg/l TCLP
☐	Nickel	7440-02-0	3.98 *	11.0 mg/l TCLP
☐	Selenium	7782-49-2	0.82 *	5.7 mg/l TCLP
☐	Silver	7440-22-4	0.43 *	0.14 mg/l TCLP
☐	Sulfide	18496-25-8	14	NA
☐	Thallium	7440-28-0	1.4 *	0.2 mg/l TCLP
☐	Vanadium [4]	7440-62-2	4.3 *	1.6 mg/l TCLP
☐	Zinc [5]	7440-66-6	2.61 *	4.3 mg/l TCLP

I certify that the above is true and correct to the best of my knowledge.

RONALD SMITH
Authorized Name (Print)

EHS Mgr
Title

Ronald Smith
Authorized Signature

6-18-08
Date

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
ACKNOWLEDGMENT OF RECYCLING NOTIFICATION

Generator Name: Zack System Corporation
Date of Notification: March 5, 2008
Solid Waste Registration Number: 88429
Texas Waste Code: 0088203H

The TCEQ acknowledges the receipt of your notification pursuant to the requirements of Title 30 TAC § 335.6. Please note that this is not an approval of your recycling activities. The requirements for industrial and/or hazardous wastes which are recycled are found at Title 30 TAC § 335.24. As a reminder, your facility is responsible for insuring that:

1) The subject wastes are managed in accordance with Title 30 TAC § 335.4 (general prohibitions) and Chapter 26.121 of the Texas Water Code; and

2) Should any changes occur or additional information become available concerning: the composition of the waste, the process by which the waste is generated or managed, or any other information referenced in 30 TAC § 335.6, this information is to be provided immediately to the TCEQ.

Your notification has been forwarded to the Industrial and Hazardous Waste Section of Record Services.

Signed: M. Scott Larsen
Date: 4/01/08 File No. 8261, JKB
Central Registry Customer Number: 603271776
Central Registry Reference Number: 105379556
I&HW Permits Section, MC 130, Waste Permits Division, (512) 239-6412, Fax (512) 239-6383.

Address: Mr. Kenneth Larsen, Zack System Corporation, 914 South 16th Street, LaPorte, TX 77571-4623

cc: TCEQ Region 12 Office, Manager, Water/Waste Programs, Houston, Texas

2853 KMTEX

EPAHO106001673

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/19/2008**

Dear **David**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2853

Expiration Date 6/19/2010

Generator: KMTEX
Address: 2450 South Gulfway Drive
Port Arthur, TX 77641

Waste Information

Name of Waste: acidic sludge
TCEQ Waste Code #: 90002191
Container Type: vac box
Detailed Description of Process Generating Waste:
old sulfuric acid tank in which solids/sludge settled out of tank
Color: grey **Odor:** slight **pH:** 8.5
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

MB
JE

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: KMTEX
Address: 2450 South Gulfway Drive
City: Port Arthur **State:** TX **Zip:** 77641
Contact: David Spacek **Title:**
Phone Number: 409-985-4200 **Fax Number:** 409-985-6350
24/hr Phone Number:
US EPA ID No: TXD988076295
State ID No: 23491 **SIC Code:**

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Acidic Sludge
Detailed Description of Process Generating Waste:

Old Sulphuric Acid tank in which solids / sludge settled out of tank.

Physical State: ☐ Liquid ☑ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Grey **Odor:** Slight

Specific Gravity (water=1): NA **Density:** NA lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

~~**Does this material contain any para substituted phenolic compounds?** ☐ Yes ☑ No~~

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☐ Single-phase ☑ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☑ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☑ Yearly ☑ One-Time
Quantity: 2 - 4K Vac boxes = 8,000 Gallons

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: 90002191

Proper US DOT Shipping Name: Non-Hazardous, Non-Regulated
Class: _____ UN/NA: _____ PG: _____ RQ: _____

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>150		8.5		BRL	mg/l	BRL	mg/l	0-1	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
0	mg/l		mg/l	BRL	mg/l	BRL	mg/l	BRL	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Old / Settled Sulphuric Acid (neutralized)	99-100	%
Chromium	3-4.9	mg/l

SECTION 5: Safety Related Data
If the handling of this waste requires the use of special protective equipment, please explain.
Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package.

Analytical from MES ID#63205.01 & 8060024

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

N/A

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:
TCLP Volatiles:
TCLP Semi-Volatiles:
Reactivity:
Corrosivity:
Ignitability:

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☑ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☑ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

~~The information contained herein is based on~~ ☑ ~~generator knowledge and/or~~ ☑ ~~analytical data.~~
~~I hereby certify that the above and attached description is complete and accurate to the best of~~ my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: David Spacek **Date:** 6/18/08

Printed Name/Title: David Spacek - Plant Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert A Thanga
Date: 6-19-08 ☑ Approved ☐ Rejected
Approval Number: 2853

FAX COVER SHEET

DATE: 6/19/08

TO: Jennifer

FAX #:

FROM: David Speak

NO. OF PAGES: 5

RE:

2450 S. GULFWAY DRIVE
P.O. BOX 1421
PORT ARTHUR, TEXAS 77640
(409) 985-4200 * (409) 985-6350 FAX

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

2. Contamination Limit (maximum limit before surchages apply):

3. Surcharge Pricing:

4. Special Testing Requirements:

5. Treatment and Handling Protocol:

Class 1 Sludge box

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

Mercury Environmental Services, Inc.

6913 HWY 225, Deer Park, TX 77536
Phone: (281)-476-4534 Fax: (281)-476-4406

CES Environmental Services
4904 Griggs Rd
Houston, TX 77021

Phone: (713) 676-1460
Fax: (713) 676-1676

Attn: **Ryan Thomas**

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

Test Group / Method

Reactivity, Recoverable Hydrogen Cyanide Method: 7.3.3.2	MDL	Result	Units	Analyst: CL Date / Time	
Hydrogen Cyanide	0.25	< 0.25	mg/kg	6/4/2008 /	3:15 PM

Reactivity, Recoverable Hydrogen Sulfide Method: 7.3.4.2	MDL	Result	Units	Analyst: CL Date / Time	
Hydrogen Sulfide	0.25	**0.65**	**mg/kg**	6/3/2008 /	4:20 PM

CORROSIVITY: pH Method: SW-846 9045	MDL	Result	Units	Analyst: JE Date / Time	
pH		**8.50**		6/4/2008 /	10:00 AM

IGNITABILITY Method: SW-846 1010	MDL	RL	Result	Units	Analyst: DB Date / Time	
Flashpoint		**150**	**>150**	**deg F**	6/3/2008 /	9:30 AM

Volatile Organics Method: SW 846/8260B	MDL	Result	Units	Analyst: HDG Date / Time	
Dichlorodifluoromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Chloromethane	0.020	< 0.020	mg/kg	6/8/2008 /	12:26 AM
Vinyl chloride	0.020		**mg/kg**	6/8/2008 /	12:26 AM
Bromomethane	0.020	< 0.020	mg/kg	6/8/2008 /	12:26 AM
Chloroethane	0.020	< 0.020	mg/kg	6/8/2008 /	12:26 AM
Trichlorofluoromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Diethyl Ether	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Acetone	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1-Dichloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Methylene chloride	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Acrylonitrile	0.100	< 0.100	mg/kg	6/8/2008 /	12:26 AM
Carbon disulfide	0.010	**0.136**	**mg/kg**	6/8/2008 /	12:26 AM

EPAHO106001682

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

trans-1,2-dichloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
mtbe	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1-Dichloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Propanenitrile	1.00	< 1.00	mg/kg	6/8/2008 /	12:26 AM
2-Butanone	0.100	< 0.100	mg/kg	6/8/2008 /	12:26 AM
2,2-Dichloropropane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
cis-1,2-Dichloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Methacrylonitrile	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Chloroform	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Bromochloromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1,1-Trichloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1-Dichloropropene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Carbon tetrachloride	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dichloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Benzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Trichloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dichloropropane	0.040	< 0.040	mg/kg	6/8/2008 /	12:26 AM
Methyl methacrylate	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Bromodichloromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Dibromomethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
2-Hexanone	0.040	< 0.040	mg/kg	6/8/2008 /	12:26 AM
cis-1,3-Dichloropropene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Toluene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
trans-1,3-dichloropropene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Ethyl methacrylate	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1,2-Trichloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
4-Methyl-2-pentanone	0.020	< 0.020	mg/kg	6/8/2008 /	12:26 AM
1,3-Dichloropropane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Tetrachloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Dibromochloromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dibromomethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Chlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1,1,2-Tetrachloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Ethyl benzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
M+P-Xylene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
o-Xylene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Styrene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Bromoform	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Isopropylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1,2,2-Tetrachloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2,3-Trichloropropane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM

EPAHO106001683

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30.00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

Bromobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
N-Propylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,3,5-Trimethylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
2-Chlorotoluene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
4-Chlorotoluene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
tert-Butylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2,4-Trimethylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
sec-Butylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
4-Isopropyl toluene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,3-Dichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,4-Dichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
n-Butylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dibromo-3-chloropropane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2,4-Trichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Hexachlorobutadiene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Naphthalene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2,3-Trichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM

Semivolatile Organics Method: SW 846/8270C	MDL	Result	Units	Analyst: TFR Date / Time	
Acenaphthene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Acenaphthylene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Acetophenone	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Aniline	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Anthracene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
4-Aminobiphenyl	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzidine	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
Benzoic acid	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
Benzo(a)anthracene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzo(b)fluoranthene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzo(k)fluoranthene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzo(ghi)perylene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzo(a)pyrene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzyl alcohol	0.4	< 0.4	mg/kg	6/11/2008 /	9:15 AM
bis(2-Chloroethoxy)methane	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
bis(2-Chloroethyl)ether	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
bis(2-Chloroisopropyl)ether	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
bis(2-Ethylhexyl)phthalate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
4-Bromophenyl-phenylether	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzyl butyl phthalate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM

EPAHO106001684

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30.00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

4-Chloroaniline	0.4	< 0.4	mg/kg	6/11/2008 / 9:15 AM
Chlorobenzilate	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
1-Chloronaphthalene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2-Chloronaphthalene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
4-Chloro-3-methylphenol	0.4	< 0.4	mg/kg	6/11/2008 / 9:15 AM
2-Chlorophenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
4-Chlorophenyl-phenylether	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Chrysene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Diallate	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Dibenzo(a,h))anthracene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Dibenzofuran	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Di-n-butylphthalate	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Dinoseb	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
1,3-Dichlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
1,4-Dichlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
1,2-Dichlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
3,3'-Dichlorobenzidine	0.4	< 0.4	mg/kg	6/11/2008 / 9:15 AM
2,4-Dichlorophenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2,6-Dichlorophenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Diethylphthalate	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
p-Dimethylaminoazobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
3,3'-Dimethylbenzidine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
7,12-Dimethylbenz[A]anthracene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2,4-Dimethylphenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Dimethylphthalate	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
4,6-Dinitro-2-methylphenol	1.0	< 1.0	mg/kg	6/11/2008 / 9:15 AM
1,3-Dinitrobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2,4-Dinitrophenol	1.0	< 1.0	mg/kg	6/11/2008 / 9:15 AM
2,4-Dinitrotoluene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2,6-Dinitrotoluene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Diphenylamine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Di-n-octylphthalate	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Ethyl methanesulfonate	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Fluoranthene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Fluorene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Hexachlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Hexachlorobutadiene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Hexachlorocyclopentadiene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Hexachloroethane	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Hexachloropropene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Indeno(1,2,3-cd)pyrene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM

EPAHO106001685

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

Isodrin	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Isosafrole	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Isophorone	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
3-Methylcholanthrene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Methylmethanesulfonate	0.8	< 0.8	mg/kg	6/11/2008 / 9:15 AM
2-Methylnaphthalene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2 Methylphenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
3+4-Methylphenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Naphthalene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
1,4-Naphthoquinone	1.0	< 1.0	mg/kg	6/11/2008 / 9:15 AM
1-Naphthylamine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2-Naphthylamine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2-Nitroaniline	1.0	< 1.0	mg/kg	6/11/2008 / 9:15 AM
3-Nitroaniline	1.0	< 1.0	mg/kg	6/11/2008 / 9:15 AM
4-Nitroaniline	1.0	< 1.0	mg/kg	6/11/2008 / 9:15 AM
Nitrobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
5-Nitro-o-toluidine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2-Nitrophenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
4-Nitrophenol	1.0	< 1.0	mg/kg	6/11/2008 / 9:15 AM
N-Nitrosodibutylamine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
N-Nitrosodimethylamine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
N-Nitrosodiphenylamine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
N-Nitroso-Di-N-Propylamine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
N-Nitrosomethylethylamine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
N-Nitrosopiperidine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
N-Nitrosopyrrolidine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Pentachlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Pentachloronitrobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Pentachlorophenol	0.4	< 0.4	mg/kg	6/11/2008 / 9:15 AM
Phenacetin	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Phenanthrene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Phenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2-Picoline	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Pronamide	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Pyrene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Pyridine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
Safrole	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
1,2,4,5-Tetrachlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
2,3,4,6-Tetrachorophenol	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
o-Toluidine	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM
1,2,4-Trichlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 / 9:15 AM

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1.30.00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

2,4,5-Trichlorophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9.15 AM
2,4,6-Trichlorophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM

Flags: H: Exceeds "High Limit" L: Below "Low Limit" RL=regulatory limit

John Keller, Ph.D., Lab Director

Friday, June 13, 2008
Date

EPAHO106001687

8060024

MERCURY ENVIRONMENTAL SERVICES
QA/QC REPORT

SURROGATE SPIKE RECOVERY FOR VOLATILES	% REC
Dibromofluoromethane	94.0
Toluene-d8	102.9
4-Bromofluorobenzene	96.8

SURROGATE SPIKE RECOVERY FOR SEMIVOLATILES	% REC
2-Fluorophenol	33.0
Phenol-d6	49.4
Nitrobenzene-d5	34.6
2-Fluorobiphenyl	34.2
2,4,6-Tribromophenol	53.2
p-Terphenyl-d14	25.5

ANALYTE	STD
Flashpoint	82°F

ANALYTE	BUFFER 7.0	ORIG	DUP	RPD
pH	7.0	8.00	8.50	0.00

ANALYTE	ORIG mg/kg	DUP mg/kg	RPD
Reactivity as Hydrogen Sulfide	< 0.25	< 0.25	0.00

ANALYTE	ORIG mg/kg	DUP mg/kg	RPD	STD %REC
Reactivity as Hydrogen Cyanide	< 0.25	< 0.25	0.00	100

Key to QA Abbreviations

MS=Matrix Spike
RPD=Relative Percent Deviation
LCS=Laboratory Control Standard
CCB=Continuing Calibration Blank
MDL-Minimum Detection Limit
MSD=Matrix Spike Duplicate
MB=Method Blank
CCV=Continuing Calibration Verification
%Rec=Percent Recovery
RL-Regulatory Limit

Signature: _____
John Keller / Laboratory Director

June 13, 2008

MES - CHAIN OF CUSTODY

Mercury Environmental Services
6913 Hwy. 225 • Deer Park, TX 77536
1-800-771-4MES
(281) 476-4534
Fax (281)-476-4406

1

COMPANY NAME: (BILL TO:) CES
COMPANY ADDRESS: 4904 Griggs Road
CITY Houston STATE TX ZIP 77021
CONTACT PERSON'S NAME: Ryan Thomas
CONTACT PERSON'S PHONE: (713) 676-1460 FAX #: (713) 676-1676

2

YOUR PROJECT NO.: YOUR P.O. #: 0508-74 YOUR PROJECT NAME: KMTEX
PROJECT ADDRESS: Port Arthur, TX

3

YOUR SAMPLE DESCRIPTION	GRAB/COMP.	DATE	TIME	MATRIX	VOLATILES	SEMI-VOLATILES	RES					NUMBER OF CONTAINERS	PRESERVATIONS
Acidic Sludge	G	6/2	3:30p		X	X	X						

4 PARAMETERS FOR ANALYSIS

5 REMARKS
TURNAROUND TIME: Rush
DETECTION LIMITS SPECIAL LIMITS REQUIRED
Yes No
Please circle one, if Yes, please describe below or include separate sheet detailing requirements.

6

PERSON TAKING SAMPLE SIGNATURE (a. - Print Name & b. - Sign.): a. Durim Tafilaj b. [signature]
RELINQUISHED BY: (Signature) [signature] DATE 6/3 TIME 8:15A RECEIVED BY: (Signature) [signature]

7

RELINQUISHED BY: (Signature) DATE TIME RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE TIME RECEIVED BY: (Signature)

METHOD OF PAYMENT SHIPPED BY: (Signature) COURIER (Signature) RECEIVED FOR MES BY: (Signature) DATE TIME

8

Sample Remainder Disposal
☐ Return Sample Remainder To Client Via
☐ I Request Lab To Dispose Of All Sample Remainders
(Signature) (Date)

Form # MES - CCRI

WHITE & CANARY – Shipped with Sample PINK – Retained by Customer WHITE – Returned with Report

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5821

Express Laboratories

CERTIFICATE NO: 63205.01 **1of 1**

Customer: **CES Env.** Sample ID: **7** Environ ID: **63205.01**
Project ID: **KMTEX Tank** Sampled: **04-29-08**
Project Loc: **Pt. Arthur** Matrix: Received: **04-30-08**
Charge/P.O.: Type: Reported: **05-09-08**

ANALYTE/ PARAMETER	RESULT	UNITS	REG. LIMIT	DET. LIMIT	TEST METHOD	TEST BY	DATE	TIME
TPH - TOTAL PETROLEUM HYDROCARBONS								
nC6 to nC12 (GRO)	< 50	mg/kg	--	50	TCEQ 1005.3	DB	05-06-08	15:32
> nC12 to nC28 (DRO)	< 50	mg/kg	--	50	TCEQ 1005.3	DB	05-06-08	15:32
> nC28 to nC35 (ORO)	< 50	mg/kg	--	50	TCEQ 1005.3	DB	05-06-08	15:32
TPH (Total > nC6 to nC35)	< 50	mg/kg	1,500	50	TCEQ 1005.3	DB	05-06-08	15:32
METALS -TCLP					EPA SW846.1311	MN	04-30-08	
Arsenic	< 0.1	mg/l	5	0.1	EPA SW846.6010C	JA	05-02-08	15:32
Barium	< 0.1	mg/l	100	0.1	EPA SW846.6010C	JA	05-02-08	15:32
Cadmium	0.1	mg/l	1	0.1	EPA SW846.6010C	JA	05-02-08	15:32
Chromium	3.1	mg/l	5	0.1	EPA SW846.6010C	JA	05-02-08	15:32
Lead	< 0.1	mg/l	1.5/5.0	0.1	EPA SW846.6010C	JA	05-02-08	15:32
Selenium	< 0.1	mg/l	1	0.1	EPA SW846.6010C	JA	05-02-08	15:32
Silver	< 0.1	mg/l	5	0.1	EPA SW846.6010C	JA	05-02-08	15:32
Mercury	< 0.02	mg/l	0.2	0.02	EPA SW846.7470A	MN	05-05-08	10:00

Key:
REG - Regulatory Limit (User Should Verify)
DET - Detection Limit
TCLP - Toxicisity Characteristic Leaching Procedure
GRO - Gasoline Range, DRO - Diesel Range, ORO - Oil Range
mg/l - PPM by Volume
mg/kg - PPM by Weight
SU - Standard Units
mg - milligrams
kg - kilograms
l - Liter

John Keller

John Keller, [illegible] D.
Laboratory [illegible]

EPAHO106001690

Mercury Environmental Services, Inc.

6913 HWY 225, Deer Park, TX 77536
Phone: (281)-476-4534 Fax: (281)-476-4406

CES Environmental Services
4904 Griggs Rd
Houston, TX 77021

Phone: (713) 676-1460
Fax: (713) 676-1676

Attn: **Ryan Thomas**

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024
Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

Test Group / Method

Reactivity, Recoverable Hydrogen Cyanide Method: 7.3.3.2	MDL	Result	Units	Analyst: CL Date / Time	
Hydrogen Cyanide	0.25	< 0.25	mg/kg	6/4/2008 /	3:15 PM

Reactivity, Recoverable Hydrogen Sulfide Method: 7.3.4.2	MDL	Result	Units	Analyst: CL Date / Time	
Hydrogen Sulfide	0.25	**0.65**	**mg/kg**	6/3/2008 /	4:20 PM

CORROSIVITY: pH Method. SW-846 9045	MDL	Result	Units	Analyst: JE Date / Time	
pH		**8.50**		6/4/2008 /	10:00 AM

IGNITABILITY Method: SW-846 1010	MDL	RL	Result	Units	Analyst: DB Date / Time	
Flashpoint		150	>150	deg F	6/3/2008 /	9:30 AM

Volatile Organics Method: SW 846/8260B	MDL	Result	Units	Analyst: HDG Date / Time	
Dichlorodifluoromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Chloromethane	0.020	< 0.020	mg/kg	6/8/2008 /	12:26 AM
Vinyl chloride	0.020		mg/kg	6/8/2008 /	12:26 AM
Bromomethane	0.020	< 0.020	mg/kg	6/8/2008 /	12:26 AM
Chloroethane	0.020	< 0.020	mg/kg	6/8/2008 /	12:26 AM
Trichlorofluoromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Diethyl Ether	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Acetone	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1-Dichloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Methylene chloride	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Acrylonitrile	0.100	< 0.100	mg/kg	6/8/2008 /	12:26 AM
Carbon disulfide	0.010	**0.136**	**mg/kg**	6/8/2008 /	12:26 AM

EPAHO106001691

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

trans-1,2-dichloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
mtbe	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1 Dichloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Propanenitrile	1.00	< 1.00	mg/kg	6/8/2008 /	12:26 AM
2-Butanone	0.100	< 0.100	mg/kg	6/8/2008 /	12:26 AM
2,2-Dichloropropane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
cis-1,2-Dichloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Methacrylonitrile	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Chloroform	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Bromochloromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1,1-Trichloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1-Dichloropropene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Carbon tetrachloride	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dichloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Benzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Trichloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dichloropropane	0.040	< 0.040	mg/kg	6/8/2008 /	12:26 AM
Methyl methacrylate	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Bromodichloromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Dibromomethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
2-Hexanone	0.040	< 0.040	mg/kg	6/8/2008 /	12:26 AM
cis-1,3-Dichloropropene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Toluene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
trans-1,3-dichloropropene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Ethyl methacrylate	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1,2-Trichloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
4-Methyl-2-pentanone	0.020	< 0.020	mg/kg	6/8/2008 /	12:26 AM
1,3-Dichloropropane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Tetrachloroethene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Dibromochloromethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dibromomethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Chlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1,1,2-Tetrachloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Ethyl benzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
M+P-Xylene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
o-Xylene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Styrene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Bromoform	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Isopropylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,1,2,2-Tetrachloroethane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2,3-Trichloropropane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM

EPAHO106001692

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

Bromobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
N-Propylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,3,5-Trimethylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
2-Chlorotoluene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
4-Chlorotoluene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
tert-Butylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2,4-Trimethylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
sec-Butylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
4-Isopropyl toluene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,3-Dichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,4-Dichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
n-Butylbenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2-Dibromo-3-chloropropane	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2,4-Trichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Hexachlorobutadiene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
Naphthalene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM
1,2,3-Trichlorobenzene	0.010	< 0.010	mg/kg	6/8/2008 /	12:26 AM

Semivolatile Organics Method: SW 846/8270C	MDL	Result	Units	Analyst: TFR Date / Time	
Acenaphthene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Acenaphthylene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Acetophenone	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Aniline	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Anthracene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
4-Aminobiphenyl	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzidine	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
Benzioc acid	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
Benzo(a)anthracene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzo(b)fluoranthene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzo(k)fluoranthene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzo(ghi)perylene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzo(a)pyrene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzyl alcohol	0.4	< 0.4	mg/kg	6/11/2008 /	9:15 AM
bis(2-Chloroethoxy)methane	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
bis(2-Chloroethyl)ether	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
bis(2-Chloroisopropyl)ether	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
bis(2-Ethylhexyl)phthalate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
4-Bromophenyl-phenylether	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Benzyl butyl phthalate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM

EPAHO106001693

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

4-Chloroaniline	0.4	< 0.4	mg/kg	6/11/2008 /	9:15 AM
Chlorobenzilate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
1-Chloronaphthalene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2-Chloronaphthalene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
4-Chloro-3-methylphenol	0.4	< 0.4	mg/kg	6/11/2008 /	9:15 AM
2-Chlorophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
4-Chlorophenyl-phenylether	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Chrysene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Diallate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Dibenzo(a,h))anthracene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Dibenzofuran	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Di-n-butylphthalate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Dinoseb	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
1,3-Dichlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
1,4-Dichlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
1,2-Dichlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
3,3'-Dichlorobenzidine	0.4	< 0.4	mg/kg	6/11/2008 /	9:15 AM
2,4-Dichlorophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2,6-Dichlorophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Diethylphthalate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
p-Dimethylaminoazobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
3,3'-Dimethylbenzidine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
7,12-Dimethylbenz[A]anthracene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2,4-Dimethylphenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Dimethylphthalate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
4,6-Dinitro-2-methylphenol	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
1,3-Dinitrobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2,4-Dinitrophenol	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
2,4-Dinitrotoluene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2,6-Dinitrotoluene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Diphenylamine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Di-n-octylphthalate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Ethyl methanesulfonate	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Fluoranthene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Fluorene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Hexachlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Hexachlorobutadiene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Hexachlorocyclopentadiene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Hexachloroethane	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Hexachloropropene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Indeno(1,2,3-cd)pyrene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM

EPAHO106001694

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

Isodrin	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Isosafrole	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Isophorone	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
3-Methylcholanthrene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Methylmethanesulfonate	0.8	< 0.8	mg/kg	6/11/2008 /	9:15 AM
2-Methylnaphthalene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2-Methylphenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
3+4-Methylphenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Naphthalene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
1,4-Naphthoquinone	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
1-Naphthylamine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2-Naphthylamine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2-Nitroaniline	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
3-Nitroaniline	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
4-Nitroaniline	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
Nitrobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
5-Nitro-o-toluidine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2-Nitrophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
4-Nitrophenol	1.0	< 1.0	mg/kg	6/11/2008 /	9:15 AM
N-Nitrosodibutylamine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
N-Nitrosodimethylamine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
N-Nitrosodiphenylamine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
N-Nitroso-Di-N-Propylamine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
N-Nitrosomethylethylamine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
N-Nitrosopiperidine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
N-Nitrosopyrrolidine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Pentachlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Pentachloronitrobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Pentachlorophenol	0.4	< 0.4	mg/kg	6/11/2008 /	9:15 AM
Phenacetin	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Phenanthrene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Phenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2-Picoline	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Pronamide	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Pyrene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Pyridine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
Safrole	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
1,2,4,5-Tetrachlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2,3,4,6-Tetrachorophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
o-Toluidine	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
1,2,4-Trichlorobenzene	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM

EPAHO106001695

- CERTIFICATE OF RESULTS -

MES Lab#: 8060024

Client Sample ID: Acidic Sludge
Extended ID: KMTEX Port Arthur, TX / PO#0508-74

Sample Collect Date: 6/2/2008 @ 1:30:00 PM **Sample Type:** Grab
Sample Receipt Date: 6/3/2008 @ 8:15:00 AM

2,4,5-Trichlorophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM
2,4,6-Trichlorophenol	0.1	< 0.1	mg/kg	6/11/2008 /	9:15 AM

Flags: H: Exceeds "High Limit" L: Below "Low Limit" RL=regulatory limit

John Keller, Ph.D., Lab Director

Friday, June 13, 2008
Date

EPAHO106001696

8060024

MERCURY ENVIRONMENTAL SERVICES
QA/QC REPORT

SURROGATE SPIKE RECOVERY FOR VOLATILES	% REC
Dibromofluoromethane	94.0
Toluene-d8	102.9
4-Bromofluorobenzene	96.8

SURROGATE SPIKE RECOVERY FOR SEMIVOLATILES	% REC
2-Fluorophenol	33.0
Phenol-d6	49.4
Nitrobenzene-d5	34.6
2-Fluorobiphenyl	34.2
2,4,6-Tribromophenol	53.2
p-Terphenyl-d14	25.5

ANALYTE	STD
Flashpoint	82°F

ANALYTE	BUFFER 7.0	ORIG	DUP	RPD
pH	7.0	8.00	8.50	0.00

ANALYTE	ORIG mg/kg	DUP mg/kg	RPD
Reactivity as Hydrogen Sulfide	< 0.25	< 0.25	0.00

ANALYTE	ORIG mg/kg	DUP mg/kg	RPD	STD %REC
Reactivity as Hydrogen Cyanide	< 0.25	< 0.25	0.00	100

Key to QA Abbreviations

MS=Matrix Spike
RPD=Relative Percent Deviation
LCS=Laboratory Control Standard
CCB=Continuing Calibration Blank
MDL=Minimum Detection Limit
MSD=Matrix Spike Duplicate
MB=Method Blank
CCV=Continuing Calibration Verification
%Rec=Percent Recovery
RL=Regulatory Limit

Signature: John Keller
John Keller / Laboratory Director

June 13, 2008

MES - CHAIN OF CUSTODY

MES
Mercury Environmental Services
6913 Hwy. 225 • Deer Park, TX 77536
1-800-771-4MES
(281) 476-4534
Fax (281)-476-4406

1
COMPANY NAME: (BILL TO:) CES
COMPANY ADDRESS 4904 Gulf Gate Road
CITY Houston STATE TX ZIP 77021
CONTACT PERSON'S NAME: Ryan Thomas
CONTACT PERSON'S PHONE: (713)676-1460 FAX #: (713)676-1676

2
YOUR PROJECT NO.: | YOUR P.O. #: 0508-74 | YOUR PROJECT NAME: KMTEX
PROJECT ADDRESS: Port Arthur, TX

4 PARAMETERS FOR ANALYSIS

YOUR SAMPLE DESCRIPTION	GRAB/COMP.	DATE	TIME	MATRIX	Volatiles	Semi-Volatiles	RCI						NUMBER OF CONTAINERS	PRESERVATIONS
Acidic Sludge	G	6/2	3:30		X	X	X							

5 REMARKS
TURNAROUND TIME Rush
DETECTION LIMITS SPECIAL LIMTS REQUIRED
Yes No
Please circle one, If Yes, please describe below or include separate sheet detailing requirements.

3

6
PERSON TAKING SAMPLE SIGNATURE (a. - Print Name & b. - Sign.): a. Dustin Tarin b.
RELINQUISHED BY: (Signature)
DATE 6/3 TIME 8:15A
RECEIVED BY: (Signature)

7
RELINQUISHED BY: (Signature) | DATE | TIME | RECEIVED BY: (Signature) | RELINQUISHED BY: (Signature) | DATE | TIME | RECEIVED BY: (Signature)

METHOD OF PAYMENT | SHIPPED BY: (Signature) | COURIER (Signature) | RECEIVED FOR MES BY: (Signature) | DATE | TIME

8
Sample Remainder Disposal
☐ Return Sample Remainder To Client Via _____
☐ I Request Lab To Dispose Of All Sample Remainders
(Signature) _____ (Date) _____

Form # MES - CCRI

WHITE & CANARY – Shipped with Sample PINK – Retained by Customer WHITE – Returned with Report

PAGE 08/08
MES
2814764406
06/13/2008 12:05
EPAHO106001698

Shannon 6/4 - Rohmax Dave - Spotcheck

MES - CHAIN OF CUSTODY

Mercury Environmental Services
6913 Hwy. 225 • Deer Park, TX 77536
1-800-771-4MES
(281) 476-4534
Fax (281)-476-4406

1

COMPANY NAME: (BILL TO:) CES
COMPANY ADDRESS: 4904 Gaylord Road
CITY Houston STATE TX ZIP 77021
CONTACT PERSON'S NAME: Ryan Thomas
CONTACT PERSON'S PHONE: (713) 676-1460 FAX #: (713) 676-1676

2

YOUR PROJECT NO.:	YOUR P.O. #:	YOUR PROJECT NAME:
	0508-74	KMTEX

PROJECT ADDRESS: Port Arthur, TX

3 **4**

YOUR SAMPLE DESCRIPTION	GRAB/COMP.	DATE	TIME	MATRIX	PARAMETERS FOR ANALYSIS: Volatiles	Semi-Volatiles	RCI						NUMBER OF CONTAINERS	PRESERVATIONS
Acidic Sludge	G	6/2	3:30		X	X	X							

5 REMARKS
TURNAROUND TIME: Rush

DETECTION LIMITS SPECIAL LIMITS REQUIRED
Yes No
Please circle one, if Yes, please describe below or include separate sheet detailing requirements.

6

PERSON TAKING SAMPLE SIGNATURE (a. - Print Name & b. - Sign.):	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)
a. Dustin Tagliaf b.		6/3	8:15A	

7

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)

METHOD OF PAYMENT	SHIPPED BY: (Signature)	COURIER (Signature)	RECEIVED FOR MES BY: (Signature)	DATE	TIME

8 Sample Remainder Disposal
☐ Return Sample Remainder To Client Via _____
☐ I Request Lab To Dispose Of All Sample Remainders
(Signature) _____ (Date) _____

Form # MES - CCRI

WHITE & CANARY – Shipped with Sample **PINK – Retained by Customer** **WHITE – Returned with Report**

EPAHO106001699

CHAIN OF CUSTODY

ENVIRON Express Laboratories

Page ____ of ____

ENVIRON EXPRESS LABORATORIES, INC.
401 North 11th. St. / La Porte, Texas 77571-3115
(281) 471-0951 / (800) 880-0156
Fax: (281) 471-5821 / After Hours: (281) 844-2308
e-mail: environexp@aol.com

Results To: CES Environmental	Invoice To: CES Environmental
Company:	Company: Same
Address: 4904 Griggs Rd	Address: Same
City: Houston State: Tx Zip: 7702	City: State: Zip:
Phone: 713 676-1676	Phone:
Fax:	Fax:
e-Mail:	PO#: Quote#:

TAT (WORKING DAYS) CIRCLE ONE: 1 2 3

LAB LOT #	COC Present? Yes No
Shipment Sealed? Yes No	Samples Sealed? Yes No
Received on Ice? Yes No	Samples Intact? Yes No
Cooler Temp. (°C)	Preservative Shown? Yes No NA
Hold Time OK? Yes No	Res. Cl2 Check OK? Yes No NA
pH Check OK? Yes No NA	COC & Labels Agree? Yes No

Remarks & Additional Analyses

Project Name: KMTEX TANK
Project Location: PT ARTHUR
Project No:
Sampler (Print): S STRICKER
Sampler (Sign): [signature]

Sampler Remarks:

EEL USE ONLY (LAB NO.)	SAMPLE ID.	DATE/TIME SAMPLED	[1] MATRIX	(C)OMP / (G)RAB	BTEX (8021B)	TPH (TX1005.3)	RCI	PAH	TOTAL EPA TCLP VOLATILES	SEMI-VOLS	RCRA 8 METALS
63205.01	1) 4	4-29-08				X					X
	2)										
	3)										
	4)										
	5)										
	6)										
	7)										
	8)										
	9)										
	10)										

Relinquished By:	Print Name:	Company:	Date:	Time:	Received By:	Print Name:	Company:	Date:	Time:
Steve Stricker		CES	4-30-08	12:30	[signature]		environ	4-30-08	12:29pm

[1] **Matrix Key**
S:Soil W:Water WW:Waste Water SL:Sludge SO:Solid SE:Sediment L: Leachate WI:Wipe OR:Organic OL:Oil DS:Drum Solid DL:Drum Liquid O:Other _____

[2] **Container Type Key**
P:Plastic G:Glass V:VOA Glass O:Other _____

[3] **Preservative Key**
1:Ice(<4°C) 2:HCL 3:H2SO4 4:HNO3 5:NaOH 6:NaOH+Zn Acetate 7:Na2S2O3 8:None

Delivery of samples constitutes acceptance of Environ's terms and conditions in the Price Schedule.

5-10-08;11:28AM;Environ ;2814715821 # 3/ 3
EPAHO106001700

acidic
Sludge
KMTEX

PA

Sulphuric
Acid

OLD
settled
out of
the
D002 tank

285H

Milstead Environmental

EPAHO106001702

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/19/2008**

Dear **James Wilson**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2854

Expiration Date 6/19/2010

Generator: Milstead Environmental
Address:
Spring, TX 77662

Waste Information

Name of Waste: water contaminated with ultramarine blue dye
TCEQ Waste Code #: SPIL2192
Container Type:
Detailed Description of Process Generating Waste:
spent water used to test pipes for leaks
Color: light purple **Odor:** none **pH:** neutral
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
level d

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP
OK

DB

need MSDS & PFI
Thanks

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Milstead Environmental Services @ various manifested locations for emergency response
Address: 29707 W. Hawthorne
City: Spring State: TX Zip: 77386
Contact: Sandy Tennery Title:
Phone Number: 281-367-3535 Fax Number: ~~281-419-4492~~ 281 367-4060 ST
24/hr Phone Number:
US EPA ID No: na
State ID No: na SIC Code: na

SECTION 2: Billing Information - ☑ Same as Above

Company:
Address:
City: State: Zip:
Contact: Title:
Phone Number: Fax Number:

SECTION 3: General Description of the Waste

Name of Waste: water contaminated w/ultramarine blue (dye)
Detailed Description of Process Generating Waste: spent water used to test pipes for leaks

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: light purple Odor: none

Specific Gravity (water=1): 1 Density: 8.34 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☑ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☑ Monthly ☐ Yearly ☐ One-Time
Quantity: 1000-5000gal

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", Is It: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: SPIL2192

Proper US DOT Shipping Name: Non-RCRA, Non-DOT regulated (ultramarine blue contaminated water)
Class: na UN/NA: na PG: na RQ: na

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
na	neutral	0 mg/l	0 mg/l	0 %
Oil & Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
0 mg/l	0 mg/l	0 mg/l	0 mg/l	0 mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
water	90-95	%
ultramarine blue	5-10	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

na

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: [signature] Date: 5/20/2008

Printed Name/Title: Sandy Tennery Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Thorpe

Date: 6-19-08 ☑ Approved ☐ Rejected

Approval Number: 2854

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☐ NO
If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory*: *Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory*: *Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory*: *Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

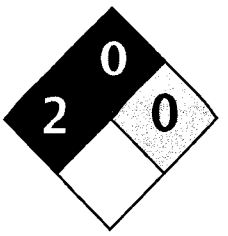
☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

ScienceLab.com
Chemicals & Laboratory Equipment



Health	2
Fire	0
Reactivity	0
Personal Protection	E

Material Safety Data Sheet
Ultramarine blue MSDS

Section 1: Chemical Product and Company Identification

Product Name: Ultramarine blue

Catalog Codes: SLU1114

CAS#: 57455-37-5

RTECS: Not available.

TSCA: TSCA 8(b) inventory: Ultramarine blue

CI#: 77007

Synonym: Pigment Blue 29; Sodium Alumino Sulfosilicate

Chemical Name: Ultramarine Blue

Chemical Formula: Na6-Al6-Si6-O24-S4

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:
1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Ultramarine blue	57455-37-5	100

Toxicological Data on Ingredients: Ultramarine blue: ORAL (LD50): Acute: 5000 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:
Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Slightly hazardous in case of inhalation.

Potential Chronic Health Effects:
Slightly hazardous in case of ingestion.
CARCINOGENIC EFFECTS: Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.

Section 4: First Aid Measures

Eye Contact:

EPAHO106001709

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.

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. 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.

Serious Inhalation: Not available.

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: 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. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:
Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

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. (Powdered solid.)

Odor: Odorless.

Taste: Not available.

Molecular Weight: Not available.

Color: Blue.

pH (1% soln/water): Not applicable.

Boiling Point: Not available.

Melting Point: Decomposes.

Critical Temperature: Not available.

Specific Gravity: 2.3 (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: Not available.

Solubility: Insoluble 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: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 5000 mg/kg [Rat].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:
Hazardous in case of skin contact (irritant), of ingestion.
Slightly hazardous in case of inhalation.

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:

EPAHO106001712

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Ultramarine blue

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): R36/38- Irritating to eyes and skin.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves.
Lab coat.
Dust respirator. Be sure to use an approved/certified respirator or equivalent.
Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 12:13 AM

Last Updated: 10/10/2005 12:13 AM

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 ScienceLab.com 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 ScienceLab.com has been advised of the possibility of such damages.

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$65/dm

2. **Contamination Limits (maximum limit before surcharges apply):**

None

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None-see lab analysis – Wash must go to System 1.

5. **Treatment and Handling Protocol:**

Forward to Newpark. DO NOT WW TREAT AT CES

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001715

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable);**

Na

2855
Zach System Corp (La Poste)

Get Gary P to sign off & return this to Prabhakar to get this in ASAP - we need to schedule the drum pickup (Ryan has reserved us a slot). The drums must be picked up by tomorrow!

Kelli/Kim
Please see last page
Pabhu

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **7/16/2008**

Dear **Ronald Smith**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2855

Expiration Date 6/20/2010

Generator: ZaCh System Corp. (La Porte)
Address: 914 South 16th Street
La Porte, TX 77571

Waste Information

Name of Waste: Nonhaz solid / liquid
TCEQ Waste Code #: 01034091
Container Type:
Detailed Description of Process Generating Waste:
Off spec materials from manufacturing process
Color: various **Odor:** none to faint **pH:** 3-11
Physical State:
Incompatibilities: oxidizers, strong acids
Safety Related Data/Special Handling:
std ppe

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company :	ZaCh System Corp. (La Porte)		
Address :	914 South 16th Street 914 South 16th Street		
City, State, Zip :	La Porte TX 77571		
Contact :	Ronald Smith	**Title :**	
Phone No :	(281) 842-0201	**Fax :**	(281) 867-1734
24 / HR Phone :			
U.S EPA I.D No :	TXR000079062		
State I.D :	88429	**SIC Code**	

SECTION 2: Billing Information

Company :	ZaCh System Corp. (La Porte)		
Address :	914 South 16th Street 914 South 16th Street		
City, State, Zip :	La Porte TX 77571		
Contact :	Ronald Smith	**Title :**	
Phone No :	(281) 842-0201	**Fax :**	(281) 867-1734

SECTION 3: General Description of the Waste

Name of Waste : Nonhaz solid / liquid

Detailed Description of the Process Generating Waste:

Off spec materials from manufacturing process

Physical State : ☑ Liquid ☐ Sludge ☐ Powder ☑ Solid ☐ Filter Cake ☐ Combination

Color : various **Odor :** none to faint

Specific Gravity (Water=1) : na **Density :** Na lbs / gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834	2835	2836	2841	2842	2843	2844	2851
2861	2865	2869	2873	2874	2876	2879	2891	2892	2893	2896	2899	2911	3312	4953	4959	9511

Layers : ☑ Single-Phas ☐ Multi-Phase

Container Type : ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Container Size : 55

Number Of Units : 25

Is this a USEPA "Hazardous Waste" per 40 CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", is it: ☐ D001 ☐ D002 ☐ D003

EPAHO106001720

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007
☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristics for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes:

Texas State Waste Code No : 01034091

Proper U.S. State Waste Code No : Non-RCRA/Non-DOT Regulated Material

Class : na **UN/NA :** na **PG :** na **RQ :** na

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>150	3-11	<20 mg/l	<20 mg/l	75-80 %
Oil and Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
na mg/l	na mg/l	na mg/l	na mg/l	na mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
CBZ Anionitril	50-100	%
Amidoxine	50-100	%
Hydroxylamine	50-100	%
Pirfenidene	50-100	%
Copper oxide	50-100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
std ppe

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
msds

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
oxidizers, strong acids

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generators knowledge

TCLP Metals : x
TCLP Volatilies : x
TCLP Semi-Volatiles : x
Reactivity : x

Corrosivity : x

Ignitability : x

SECTION 9: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge ? ☐ YES ☑ NO

If 'YES', complete this section

PLEASE CHECK THE APPROPRIATE BOX: IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE

Matals Subcategory: ***Subpart A***

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phospha
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: ***Subpart B***

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation wastes
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory ***Subpart C***

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bering wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesive and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations

EPAHO106001722

☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcatego

☐ Oils Subcatego

☐ Organics Subcategory

SECTION 10: Additional Instruction

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby cerity that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature : _____ **Date :** 6/18/2008

Printed Name / Title : Roland Smith /

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer : Prabhakar Thangudu

Date : 6/20/2008 **Status :** Approved Rejected

Approval Number : 2855

Process Facility Information :

Waste code changed from 01033161 to 01034091 on 7/16/08 at Ron's request.

EPAHO106001723

Kelli Lofton

From: Smith, Ron E [Ron.Smith@ZambonGroup.com]
Sent: Monday, July 14, 2008 3:35 PM
To: Kelli Lofton
Subject: RE: profile change

The waste code for the nmp wastewater is 01042071, as will be seen on the completed profile.

From: Kelli Lofton [mailto:klofton@cesenvironmental.com]
Sent: Monday, July 14, 2008 3:22 PM
To: Smith, Ron E
Subject: RE: profile change

I will refax...look at what you sent me (below)! Please try again with the correct waste code number ☺.

Kelli Lofton
CES Environmental Services, Inc.
4904 Griggs Road
Houston, TX, 77021
713-800-7922 (direct)
713-676-1460 (office)
281-785-0764 (cell)

From: Smith, Ron E [mailto:Ron.Smith@ZambonGroup.com]
Sent: Monday, July 14, 2008 3:17 PM
To: Kelli Lofton
Subject: RE: profile change

Okay, fine! I am working on this profile for the NMP Wastewaters, and I find that I received 4 for the apparent 5 pages you originally faxed over, would you mind re-faxing?

And...

Kelli, would you change the waste code for our Pirfenidone wastes from 01033161 to 01034091.

Thank you, CES Profile # 2855

Ron Smith
EHS Manager
ZaCh System

From: Kelli Lofton [mailto:klofton@cesenvironmental.com]
Sent: Monday, July 14, 2008 2:57 PM
To: Smith, Ron E
Subject: profile change

Ron,

Here is the easiest way to get that number changed – just fax me something that says you want to change the waste code on our profile number 2855 (non haz solid/liquid) from 01033161 to whatever you want and sign it. I wrote down 034091, but I am guessing you meant 00034091..

EPAHO106001724

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/20/2008**

Dear **Ronald Smith**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2855

Expiration Date 6/20/2010

Generator: ZaCh System Corp. (La Porte)
Address: 914 South 16th Street
La Porte, TX 77571

Waste Information

Name of Waste: Nonhaz solid / liquid
TCEQ Waste Code #: 01033161
Container Type:
Detailed Description of Process Generating Waste:
Off spec materials from manufacturing process
Color: various **Odor:** none to faint **pH:** 3-11
Physical State:
Incompatibilities: oxidizers, strong acids
Safety Related Data/Special Handling:
std ppe

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

Hydroxylamine should not be in the chemical composition. this material is explosive.

Kelli / Kim

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Zack System Corp
Address: 914 South 16th Street
City: LaPorte State: TX Zip: 77571
Contact: Ronald Smith Title: HSE Manager
Phone Number: 281-842-0201 Fax Number: 281-867-1734
24/hr Phone Number: 281-842-0201
US EPA ID No: TXR000079062
State ID No: 88429 SIC Code:

SECTION 2: Billing Information - ☒ Same as Above

Company:
Address:
City: State: Zip:
Contact: Title:
Phone Number: Fax Number:

SECTION 3: General Description of the Waste

Name of Waste: Non Haz Solid / Liquid
Detailed Description of Process Generating Waste:

Off Spec materials from manufacturing process

Physical State: ☒ Liquid ☒ Solid ☐ Sludge ☐ Filter Cake ☐ Powder ☐ Combination

Color: Various Odor: None to faint

Specific Gravity (water=1): N/A Density: N/A lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☒ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☒ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☒ Monthly ☐ Yearly ☐ One-Time
Quantity: 20 - 25

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☒ No
If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☐ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☐ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: 01033161

Proper US DOT Shipping Name: Non D.T. Regulated Materials
Class: _____ UN/NA: _____ PG: _____ RQ: _____

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>150	3-11	<20 mg/l	<20 mg/l	75-80 %
Oil & Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
N/A mg/l	NA mg/l	NA mg/l	NA mg/l	NA mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
CBZ Aminonitrile (see msds) ✓	50-100	%
Amidoxime (see msds) ✓	50-100	%
2. Hydroxylamine (see msds)	50-100	%
Pirfenidone (see msds) ✓	50-100	%
Copper oxide (see msds) ✓	50-100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. msds'

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizers, strong acids

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO
If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Ronald Smith **Date:** 6-18-08

Printed Name/Title: RONALD SMITH / EHS MANAGER

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Compliance Officer:	[signature]
Date: 6-20-08	Approved ☐ Rejected
Approval Number:	2855

Total P.005

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$75/drum
$70/hr trans + FSC

2. Contamination Limit (maximum limit before surchages apply):

none

3. Surcharge Pricing:

none

4. Special Testing Requirements:

Flash, pH

5. Treatment and Handling Protocol:

Dispose as class 1 to Landfill

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

SIGMA-ALDRICH

MATERIAL SAFETY DATA SHEET

Date Printed: 02/26/2008
Date Updated: 02/05/2006
Version 1.8

Section 1 - Product and Company Information

Product Name	COPPER(I) OXIDE, POWDER, <5 MICRON, 97%
Product Number	208825
Brand	ALDRICH
Company	Sigma-Aldrich
Address	3050 Spruce Street SAINT LOUIS MO 63103 US
Technical Phone:	800-325-5832
Fax:	800-325-5052
Emergency Phone:	314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
COPPER(I) OXIDE	1317-39-1	Yes

Formula: Cu2O

Synonyms: Brown copper oxide * Caocobre * C.I. 77402 * Copox * Copper nordox * Copper oxide (8CI,9CI) * Copper(1+) oxide * Copper-sandoz * Copper suboxide * Cupper oxide (Russian) * Cupramar * Cuprous oxide * Dicopper monoxide * Fungimar * Fungi-rhap Cu-75 * Kupferoxydul (German) * Kuprite * Nordox * Oleocuivre * Oleo nordox * Oxyde cuivreux (French) * Perenox * Red copper oxide * Yellow cuprocide

RTECS Number: GL8050000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic (USA) Harmful (EU). Dangerous for the environment. Harmful if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

HMIS RATING

HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 1

NFPA RATING

HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 1

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 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: 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 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
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.

SPECIAL REQUIREMENTS
Air and moisture sensitive.

EPAHO106001733

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Mechanical exhaust required. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.
Hand: Long rubber or neoprene gauntlet gloves.
Eye: Chemical safety goggles.
Other: Rubber apron.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Physical State: Solid Color: Deep red Form: Powder	
Property	**Value**	**At Temperature or Pressure**
Molecular Weight	143.08 AMU	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	1,230 °C	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	6 g/cm3	20 °C
Bulk Density	1.4 kg/l	
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	N/A	

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

EPAHO106001734

Stable: Stable.
Conditions to Avoid: Moisture. Air.
Materials to Avoid: Oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Copper, Copper alloys.

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: Harmful if swallowed.

SENSITIZATION
Sensitization: Will not occur

SIGNS AND SYMPTOMS OF EXPOSURE
Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis.

TOXICITY DATA
Oral
Rat
1,340 mg/kg
LD50
4 H
Inhalation
Rat
> 50,000 mg/m3
LC50
Skin
Rat
> 2,000 mg/kg
LD50

Oral
Rat
470 mg/kg
LD50

Intraperitoneal
Mouse
380 MG/KG
LD50

IRRITATION DATA
Skin
Rabbit
Remarks: No irritation effect
Eyes
Rabbit
Remarks: Mild irritation effect

EPAHO106001735

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat
Dose: 11 UG/M3/24H
Route of Application: Inhalation
Exposure Time: (14W MALE)
Result: Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: LC50 Fish
Species: Cyprinodon variegatus (Sheepshead minnow)
Time: 96 h
Value: > 0.17 mg/l

Test Type: EC50 Algae
Species: Selenastrum capricornutum resp.
Time: 96 h
Value: 0.030 - 1.6 mg/l

Test Type: EC50 Algae
Species: Scenedesmus subspicatus
Time: 96 h
Value: 65 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 0.5 mg/l

ADDITIONAL RESULTS/DATA FROM RELEVENT SCIENTIFIC EXPERIMENTS

Avoid contamination of the environment

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
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s
IATA UN Number: 3077
Hazard Class: 9
Packing Group: III

EPAHO106001736

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION
Symbol of Danger: Xn-N
Indication of Danger: Harmful. Dangerous for the environment.
R: 22-50/53
Risk Statements: Harmful if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 22-60-61
Safety Statements: Do not breathe dust. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Toxic (USA) Harmful (EU). Dangerous for the environment.
Risk Statements: Harmful if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements: Do not breathe dust. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: Yes
NOTES: This product is subject to SARA section 313 reporting requirements - copper compounds.
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. 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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EPAHO106001737

ZaCh SYSTEM

SAFETY DATA SHEET

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

Product name: Pirfenidone

Product No.: 01363

Supplier:
ZaCh System Corporation
914 So. 16th Street
La Porte, Texas
USA

Emergency telephone:
1-281-842-0245

Intended use: Chemical intermediate

Contact person:
E-mail: Ron.Smith@ZambonGroup.com

2 HAZARDS IDENTIFICATION

The product has been classified according to the legislation in force.

Classification: | Xn; R20/22 |

The full text for all R-phrases is displayed in Section 16.

Potential health effects

Inhalation: Harmful by inhalation. Dust may irritate the respiratory system.

Eye contact: Dust in the eyes will cause irritation.

Skin contact: Dust may irritate skin.

Ingestion: Harmful if swallowed.

Other health effects: No data available.

Potential physical / chemical effects: This product is not flammable.

Environment: No data available.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	EC No.	CAS-No.	Concentration *	Classification	Notes
Pirfenidone		53179-13-8	100%	Xn;R20/22	-

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

EPAHO106001738

4 FIRST-AID MEASURES

Inhalation: Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and take along these instructions.

Eye contact: Flush thoroughly with water for at least 15 minutes. Dust in the eyes: Make sure to remove any contact lenses from the eyes before rinsing. Get medical attention if irritation persists after washing.

Skin contact: Wash contact areas with soap and water. Get medical attention promptly if symptoms occur after washing.

Ingestion: Give one or two glasses or water if patient is alert and able to swallow. Seek immediate medical attention. Do not induce vomiting.

5 FIRE-FIGHTING MEASURES

Extinguishing media: This product is not flammable. Water spray, foam, dry powder or carbon dioxide.

Inappropriate extinguishing media: None.

Special fire fighting procedures: Use standard firefighting procedures and consider the hazards of other involved materials.

Unusual fire & explosion hazards: None known.

Hazardous combustion products: Carbon oxides, Nitrogen oxides

Protective measures: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid dust formation. Avoid inhalation of dust and contact with skin and eyes. Wear necessary protective equipment. See Section 8 for personal protective equipment.

Spill cleanup methods: Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. Collect and dispose of spillage as indicated in section 13.

Environmental precautions: Avoid discharge into water courses or onto the ground.

Notification procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

7 HANDLING AND STORAGE

Handling: Provide adequate ventilation. Avoid inhalation of dust and contact with skin and eyes. Use work methods which minimise dust production. Wear suitable protective clothing and gloves. Observe good industrial hygiene

EPAHO106001739

practices.

Storage: Store in tightly closed original container. Store away from incompatible materials. Avoid conditions which create dust.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values: No exposure limits noted for ingredient(s). OELs (8-hour TWA) for inhalable dust: 10 mg/m3; respirable dust 4 mg/m3.

Engineering controls: Provide sufficient ventilation for operations causing dust formation. Observe good industrial hygiene practices.

Respiratory protection: During dust-raising work: Use respiratory equipment with particle filter, type P2. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye protection: Risk of contact: Wear protective gloves and goggles/face shield.

Hand protection: Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection: Risk of contact: Use skin protection.

Hygiene measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls: Environmental manager must be informed of all major spillages.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid
Colour: White
Odour: Not applicable
Odour threshold: No data available.
pH: Not applicable
Melting point: 106°C (223°F) - 112°C (234°F)
Freezing point: No data available.
Boiling Point: Not applicable
Relative density: Not applicable
Vapour pressure: Not applicable
Vapour density (air=1): Not applicable
Evaporation rate: Not applicable
Solubility in water: Soluble
Solubility (other): No data available.
Partition coefficient (n-octanol/water): No data available.
Viscosity: Not applicable
Flash point: No data available.
Autoignition temperature: No data available.
Flammability limit - lower(%): No data available.

EPAHO106001740

Flammability limit - upper (%): No data available.

10 STABILITY AND REACTIVITY

Stability: Material is stable under normal conditions.

Conditions to avoid: Excessive heat.

Materials to avoid: Strong oxidising agents.

Hazardous decomposition products:

At elevated temperatures:	Carbon oxides, Nitrogen oxides

Possibility of hazardous reactions: Will not occur.

11 TOXICOLOGICAL INFORMATION

Specified substance(s)
Acute toxicity:

Chemical name	Test results
Pirfenidone	Oral LD50 (Rat): 1295 mg/kg

Inhalation: Harmful by inhalation. Dust may irritate respiratory system.

Eye contact: Dust may irritate the eyes.

Skin contact: Dust may irritate skin.

Ingestion: Harmful if swallowed.

Sensitisation: No data available.

Listed carcinogens: None

Mutagenesis: No data available.

Reproductive toxicity: No data available.

Other effects: No data available.

12 ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

Mobility: The product is soluble in water.

Persistence and degradability: No data available.

Bioaccumulation potential: No data available.

EPAHO106001741

13 DISPOSAL CONSIDERATIONS

General information: Dispose of waste and residues in accordance with local authority requirements.

Disposal methods: Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

European waste codes
Unused product: 16 03 05*

14 TRANSPORT INFORMATION

ADR/RID Not regulated.

IMDG Not regulated.

IATA Not regulated.

15 REGULATORY INFORMATION

Contains: Pirfenidone

Harmful.

R20/22; Harmful by inhalation and if swallowed.

S22; Do not breathe dust. S24/25; Avoid contact with skin and eyes. S60; This material and its container must be disposed of as hazardous waste.

16 OTHER INFORMATION

Wording of the R-phrases in sections 2 and 3: R20; Harmful by inhalation. R22; Harmful if swallowed.

Inventory status: Not all substances are listed on EINECS.

Issue date: 14-Mar-2008
Supercedes date:
SDS No.: 1010720
Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

EPAHO106001742

BASF

The Chemical Company

Safety data sheet

Hydroxylamine Free Base 50%

1. Substance/preparation and company identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932

24 Hour Emergency Response Information
CHEMTREC: (800) 424-9300
BASF HOTLINE: (800) 832-HELP

Molecular formula:	H3N0
Chemical family:	amines, aqueous solution
Synonyms:	HYDROXYLAMINE FREE BASE (50% AQUEOUS SOLUTION)

2. Composition/information on ingredients

CAS Number	Content (W/W)	Chemical name
7732-18-5	50.0 %	Water
7803-49-8	50.0 %	hydroxylamine

3. Hazard identification

Emergency overview

DANGER: TOXIC. SENSITIZER. CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
INGESTION MAY CAUSE GASTRIC DISTURBANCES.
SUSPECT CANCER HAZARD.
RISK OF SERIOUS DAMAGE TO EYES.
Avoid contact with the skin, eyes and clothing.
Avoid inhalation of mists/vapours.
Wear NIOSH-certified chemical goggles.
Wear protective clothing.
Eye wash fountains and safety showers must be easily accessible.
For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing supplied-air respirator (SAR) with escape provisions.
Ensure adequate ventilation.

Potential health effects

Primary routes of exposure
Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute toxicity:
Information on: hydroxylamine
Harmful in contact with skin and if swallowed.
There is a risk of damage to the blood (methemoglobinemia) after a single uptake of large quantities.

Irritation:
Irritating to eyes, respiratory system and skin. Risk of serious damage to eyes.

Sensitization:

May cause sensitization by skin contact.

Potential environmental effects

Aquatic toxicity:
Very toxic (acute effect) to fish.

4. First-aid measures

General advice:
Immediately remove contaminated clothing. First aid personnel should pay attention to their own safety.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Seek medical attention. If not breathing, give artificial respiration.

If on skin:
Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:
Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

If swallowed:
Rinse mouth immediately and then drink plenty of water, seek medical attention.

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), treat with toluonium chloride to reverse methaemoglobinanaemia.

5. Fire-fighting measures

Autoignition:	215 °C	(DIN 51794)

-419°F

Suitable extinguishing media:
water

Hazards during fire-fighting:
ammonia, nitrous gases
The substances/groups of substances mentioned can be released if the product is involved in a fire.

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

NFPA Hazard codes:
Health : 3 Fire: 1 Reactivity: 3 Special:

6. Accidental release measures

Personal precautions:
Avoid contact with the skin, eyes and clothing. Avoid inhalation. Use breathing apparatus if exposed to vapours/dust/aerosol. Use personal protective clothing.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.

Cleanup:
Use of combustible materials (e.g. paper towels) to absorb the liquid can result in the heat of decomposition evaporating the liquid and causing the absorbent to self-ignite. Materials used to absorb the liquid in the product must be kept wet until decomposition is complete.

For small amounts: Dilute with plenty of water. Oxidize with sodium hypochlorite or hydrogen peroxide. The indicated conversion should take place only in small portions because of gas formation.
For large amounts: Pump off product. Place into suitable container for disposal. Dispose of absorbed material in accordance with regulations.

7. Handling and storage

Handling

General advice:
Avoid contact with the skin, eyes and clothing. Processing machines must be fitted with local exhaust ventilation. Breathing must be protected when large quantities are decanted without local exhaust ventilation. Pressure relief device necessary. Containers under pressure should be opened with care to release pressure. Once container is opened, content should be used as soon as possible. Protect from direct sunlight. Transport and handling of IBCs/drums/containers containing crystallized product is safe under normal transport and handling procedures as long as no liquid has been removed. Ensure that there is no crystallized product in the container before use. Product may only be removed if the thermolabel is white or if the temperature measured by alternative methods is above 15 °C (59 °F). Solidified product can be dissolved in the container by gently applying indirect heat (no open flames, no contact heat). The temperatures which must be avoided are to be considered.

Protection against fire and explosion:
Store in a cool place. If heated the drums can burst due to pressure build-up.

Storage

General advice:
Danger of bursting when sealed gastight. Keep only in the original container at temperature not exceeding 50 °C. Protect from direct sunlight. Avoid deposition of dust.

Storage incompatibility:
General: Segregate from nitrites and alkaline substances. Segregate from lyes. Segregate from oxidants. Segregate from ammonium salts. Segregate from metals.

Storage stability:
Storage duration: 12 Months
See MSDS section 9 - Physical/chemical data. It is recommended to keep a safe distance of +7 °C above the crystallization range.

Temperature tolerance

Protect from temperatures above: 50 °C

8. Exposure controls and personal protection

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) amine/organic vapor respirator. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:
Chemical resistant protective gloves (EN 374), Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):, polyvinylchloride (PVC) - 0.7 mm coating thickness, nitrile rubber (NBR) - 0.4 mm coating thickness, butyl rubber (butyl) - 0.7 mm coating thickness, Supplementary note: The specifications are based on own tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the determined permeation time., Manufacturer's directions for use should be observed because of great diversity of types.

Eye protection:
Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
protective overalls (f.e. according to EN 14605) with hood (Neopren-coated)

General safety and hygiene measures:
Avoid inhalation of vapour. Avoid contact with the skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice. At the end of the shift the skin should be cleaned and skin-care agents applied. Take off immediately all contaminated clothing. Store work clothing separately.

9. Physical and chemical properties

Form:	solution	
Odour:	faint specific odour	
Colour:	colourless	
pH value:	10.6	
crystallization temperature:	8 °C	
Density:	1.122 g/cm3	(50 %(m), 25 °C)
Relative density:	1.12	(20 °C)
Viscosity, kinematic:	1.435 mm2/s	(25 °C)
Miscibility with water:		miscible in all proportions

10. Stability and reactivity

Conditions to avoid:
>= 52 weight %

Avoid concentrations above the mentioned value. Avoid crystallization of the active ingredient. Avoid evaporation/volatilization of the solvent. Avoid heat. Avoid direct sunlight. Avoid excessive temperatures. Avoid excess pressure.

Substances to avoid:
heavy metal compounds (e.g. rust), reducing agents, oxidizing agent, acids, bases

Hazardous reactions:
Reacts with alkalies. Reacts with oxidizing agents. Reacts with nitrites. Reacts with nitrates. Reacts with heavy metal compounds (e.g. rust). Reacts with various metals. The crystallized product is capable of explosion when heated. Evaporation/volatilization of the solvent causes a product crystallization which is capable of explosion.

Decomposition products:
Hazardous decomposition products: ammonia, nitrogen oxides

Thermal decomposition:
> 50 °C
To avoid thermal decomposition, do not overheat. Decomposition rate increases above the indicated temperature. May decompose violently. Explosive decomposition.

Corrosion to metals:
See user defined text.

11. Toxicological information

Acute toxicity

Oral:
LD50/rat: 516 mg/kg
The product has not been tested. The statement has been derived from products of a similar structure and composition.

Information on: Hydroxylammonium sulphate
LD50/rat: 642 mg/kg (BASF-Test)

Dermal:

Information on: hydroxylamine
LD50/rabbit: 1,500 - 2,000 mg/kg (OECD Guideline 402)
Analogous: Assessment derived from products with similar chemical character.

Skin irritation:

Information on: hydroxylamine
rabbit: Irritant. (BASF-Test)
Analogous: Assessment derived from products with similar chemical character.

Eye irritation :

Information on: hydroxylamine
rabbit: Risk of serious damage to eyes. (BASF-Test)
Analogous: Assessment derived from products with similar chemical character.

Sensitization:
sensitizing
sensitizing effect in animal tests

Chronic toxicity

Genetic toxicity:
Information on: hydroxylamine
The data available on mutagenic action are not consistent.
The substance was not mutagenic in bacteria.
The substance was mutagenic in various cell culture test systems; however, these results could not be confirmed in tests with mammals.

Carcinogenicity:
In long-term studies in rats and mice in which the substance was given by drinking water, a carcinogenic effect was observed.
Relating to this endpoint the product has not been fully tested. The statement has been derived from the structure of the product.

Reproductive toxicity:
Information on: hydroxylamine
Repeated oral uptake of the substance did not cause damage to the reproductive organs.

Developmental toxicity/teratogenicity:
Information on: hydroxylamine
No indications of a developmental toxic / teratogenic effect were seen in animal studies.
The product has not been tested. The statement has been derived from products of a similar structure and composition.
---

12. Ecological information

Environmental fate and transport

Biodegradation:
Evaluation: Inorganic product which cannot be eliminated from water by biological purification processes.

Environmental toxicity

Information on: Hydroxylammonium sulphate
Acute and prolonged toxicity to fish:
other static
Fathead minnow/LC50 (96 h): 7.2 mg/l
Literature data.

Information on: Hydroxylammonium sulphate
Acute toxicity to aquatic invertebrates:
Directive 84/449/EEC, C.2 Daphnia magna/EC50 (48 h): 1.62 mg/l
---

Toxicity to aquatic plants:
algae/EC50 (72 h): 0.72 mg/l
Highly toxic.

Information on: Hydroxylammonium sulphate
Toxicity to aquatic plants:
OECD Guideline 201 green algae/EC50 (72 h): 0.72 mg/l

Information on: Hydroxylammonium sulphate
Toxicity to microorganisms:
OECD Guideline 209 aquatic
other bacteria/EC20 (30 min): 0.6 mg/l

Other ecotoxicological advice:
Very toxic (acute effect) to aquatic organisms. Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:
Dilute with plenty of water.
Oxidize with sodium hypochlorite or hydrogen peroxide.
The indicated conversion should take place only in small portions because of gas formation.
Contact manufacturer.

Container disposal:
Uncleaned empties should be disposed of in the same manner as the contents. Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport information

Land transport
USDOT

Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains HYDROXYLAMINE) SOLUTION
Hazard class:	9
ID-number:	UN 3082
Packing group:	III

Sea transport
IMDG

Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

	(contains HYDROXYLAMINE) SOLUTION
Hazard class:	9
ID-number:	UN 3082
Packing group:	III
Marine pollutant:	YES

Air transport
IATA/ICAO

Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. contains (HYDROXYLAMINE) SOLUTION
Hazard class:	9
ID-number:	UN 3082
Packing group:	III

15. Regulatory information

Federal Regulations

Registration status:
TSCA, US released; restriction on quantity / not listed

Import allowed only by BASF Corporation

CERCLA RQ	CAS Number	Chemical name
100 LBS	7803-49-8	hydroxylamine

State regulations

State RTK

CAS Number	Chemical name	State RTK
7803-49-8	hydroxylamine	MA, NJ, PA

16. Other information

HMIS III rating
Health: 3¤ Flammability: 1 Physical hazard: 3

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

Local contact information
prod_reg@basf.com

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET

ZaCh SYSTEM	(EC) – MATERIAL SAFETY DATA SHEET (in accordance with the Directive 91/155/CEE)	
Chemical plant: **Via Dovaro** **Almisano di Lonigo (VI) - ITALY** **Phone +39/0444/433111** **Fax +39/0444/831192**	*Substance:* **AMIDOXIME** *SdS Reach n° 02* *Ed. n° 01** **Page 1**	Compilation date: 09/04/2008 Updating date: Application: ☐ Active pharmaceutical ingredient ☐ Raw material ☐ Solvent ☒ Intermediate ☐ Catalyst ☐ Finished product ☐ Reagent

1. PRODUCT/COMPOUND AND COMPANY/ENTERPRISE IDENTIFICATION

1.1. **Substance/Compound identification**

1.1.1. Chemical name: Carbamic acid, N-(2-(hydroxyamino)-2-imino-1,1-dimethylethyl)-,phenylmethyl ester

1.1.2. Common names and Synonyms :

1.1.3. Registration Number by European Chemicals Agency:

1.2. **Substance/Compound Use**

1.2.1. Application: Active pharmaceutical ingredient

1.3. **Company/Enterprise identification**

ZACH SYSTEM S.p.A.
Via Dovaro – Almisano di Lonigo (VI) - Italy
Phone +39/0444/433111 – Fax +39/0444/831192

1.3.1. **Person responsible for placing the substance/compound on the market**

Manufacturer :
Importer :
Distributor :

1.3.2. **Competent responsible for the Safety Data Sheet**

Name:
Mail address:

1.4. **Emergency phone number**

1.4.1. Emergency phone number: +39/335/7803994; +39/335/1221704

1.4.2. Availability of phone number: Always

2. HAZARDS IDENTIFICATION

2.1. **Substance/Compound Identification (Dir. 67/548/EEC or Dir.1999/45/EC)**

2.2. **Hazards for man** : The toxicological properties of the material have not been fully investigated.

2.3. **Hazards for environment** : Not available data

2.4. **Other hazards** :

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Number of CAS register** : 518047-98-8

3.2. **IUPAC Nomenclature:**

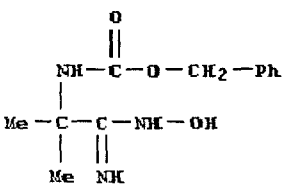
3.3. **Number of European Chemicals Agency register:**

3.4. **Index Number :**

3.5. **Number of EINECS register :**

3.6. **Number of ELINCS register :**

3.7. **Molecular formula :** C12H17N3O3



3.8. **Structural formula :**

3.9. **Molecular weight** : 251,28

4. FIRST AID MEASURES

4.1. **Swallowing** : If the exposed subject is fully conscious,wash the mouth with copious amount of water to remove the product. Call in physician.

4.2. **Inhalation** : Remove immediately exposed subject to fresh air. If breathing is difficult give oxigen. If not breathing, give artificial respiration. Call in physician.

4.3. **Skin contact** : Wash off with plenty of water. Remove contaminated clothing . Call in physician.

4.4. **Eyes contact** : Rinse out with plenty of water with the eyelid held wide open. Call in physician

4.5. **Other information :**

5. FIRE-FIGHTING MEASURES

5.1. **Suitable extinguishing media** : Water, CO2, foam, powder

5.2. **Extinguishing media to be avoided** :

5.3. **Dangerous from combustion products** :

5.4. **Special protective equipment for fire fighting** : Keep a safety distance and wear suitable protective clothing, use self-contained breathing apparatus

5.5. **Other information** :

6. ACCIDENTAL RELEASE MEASURES

6.1. **Absorbing and cleaning procedures** : Collect with mechanical instruments and wash the floor Put the residual into labeled containers to send to disposal.

6.2. **People protection** : Stop leak.Set the area. Wear protective clothing and equipment consistent with the degree of hazardous.

6.3. **Other suggestions** : Avoid raising dust and dispersing in the environment

7. HANDLING AND STORAGE

7.1. **Handling:** Depending on concentration and quantity of the hazardous substances handled wear gloves,security glasses and gas-musk with powder filter.
Handle under aspiration system.

7.2. **Storage:** Store in tight containers in fresh dry and well ventilated areas

8. INDIVIDUAL EXPOSURE/PROTECTION CONTROL

8.1. **General information** : Supply the manufacturing area with aspiration system. Avoid contact, inhalation and swallowing.

8.2. **Hygiene measures** : Do not eat or drink or smoke during handling. *Avoid repeat and prolonged exposure.*

8.3. **Respiratory protection** : Gas-musk equipped with combinate filter (P3)

8.4. **Hand protection** : Wear chemical resistant gloves.

8.5. **Skin protection** : Wear protective clothing

8.6. **Eyes protection** : Wear protective clothing.

8.7. **Exposure limits**

8.7.1. TLV/TWA (ACGIH, USA) :
8.7.2. TLV/CEILING (ACGIH, USA) :

Also if there is not TLV operators must use all suitable security measures to limit smokes release in atmosphere and use all necessary equipments during handling or in case of emergency intervention.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Aspect**

9.1.1. **Physical state** : Crystalline powder

9.1.2. **Colour** : White

9.1.3. **Odour** : Inodour

9.2. **Important data for safety:**

9.2.1. **Water solubility** : Pratically insoluble

9.2.2. **Solubility in main organic solvents** : Soluble in methanol and acetone

9.2.3. **Density** :

9.2.4. **Melting point** : 162 °C

9.2.5. **Boiling point** :

9.2.6. **Flash point** :

9.2.7. **Lower and higher flash limit in air (% vol.)**:

9.2.8. **Autoignition temperature** :

9.2.9. **Estimated on set temperature of exothermic behaviour** : ° C

9.2.10. **Vapour pressure** :

9.2.11. **pH valor** :

9.2.12. **Vapor density** :

9.2.13. **Octanol/water partition rate (log P)** :

9.2.14. **Minimun oxygen concentration (LOC % v/v)** :

9.2.15. **MIE (minimum ignition energy)** :

9.2.16. **MIT (minimum ignition temperature-dust cloud)** :

9.2.17. **LIT (minimum ignition temperature – powder in strate)** :

9.2.18. **Dust explosion constant (Kst)** :

9.2.19. **Powder class (ST)** :

9.2.20. **Further information** : Decomposition start at 183°C

10. STABILITY AND REACTIVITY

10.1. **Conditions to be avoided** : n.a.

10.2. **Materials to be avoided** : n.a.

10.3. **Dangerous decomposition products** :

10.4. **Other information** :

11. TOXICOLOGICAL INFORMATION

11.1. **Routes of entry:**

11.1.1. **Ingestion** : Yes

11.1.2. **Inhalation** : Yes

11.1.3. **Contact** :

11.2. **General information:**

11.3. **Acute toxicity:** **LD_{50} (oral) [mg/kg]:** n.a.

LD_{50} (skin) [mg/kg]: n.a.

LC_{50} (inhalation) [mg/l/4h]: n.a.

11.4. **Other toxicity data:**

11.5. **Chronic toxicity:**

- **Carcinogenicity** : n.a.
- **Mutagenicity** : n.a.
- **Teratogenicity** : n.a.

11.6. **Corrosive/Irritant action:**

- **Skin** : n.a.
- **Eyes** : n.a.
- **Mucous membrane** : n.a.

11.7. **Other information:**

12. ECOLOGIC INFORMATION

12.1. **Ecotoxicity** : Not available data. Handle following the good manufacturing rules, avoiding to dispersing in the environment

12.1.1. Behavior inside purification system (bacterial toxicity. Reproductive/respiratory inhibition):

12.2. **Mobility** :

12.3. **Persistence/degradability** :

12.4. **Bioaccumulation potential** :

12.5. **Other negative effects on environment** :

12.6. **Other ecological indications**: Avoid contaminate water and the ground

13. DISPOSAL CONSIDERATIONS

Dissolve or mix the material with a combustible solvent and burn in an authorized incinerator equipped with an afterburner and scrubber. In any case respect the regulation in force about disposal and waste recovery.

14. TRANSPORT INFORMATION

The substance is not classified dangerous substance according to International Transport Regulation

Proper shipping name/description:

14.1. **Road and railway transport (RID/ADR):**

Class: UN n. : Classification code : Label :

Packaging Group :

14.2. **Shipping transport (IMDG Code):**

Class : UN.n. : EmS : Label : M.POU.:

Packaging Group :

14.3. **Air transport (ICAO / IATA):**

Class : UN.n.: Label :

Packaging Group :

15. REGULATORY INFORMATION

15.1. **Labeling in accordance with ECC Directive**: 1) legal 2) temporary 3) not required

15.2. **Hazard symbol** :

15.3. **R phrases** :

15.4. **S phrases** :

15.5. **Law references:**

15.5.1. Medical checks of law: Periodic and prevent medical examinations according to physician and Italian regulations.

15.5.2. D.Lgs 334/99 and following updatings :

15.5.3. Compulsory insurance (table DPR 336/94 – Italian regulation-):

16. OTHER INFORMATION

16.1. **Notes:**
n.a. = non available

BILIOGRAPHY:

16.2. **Other information** :

16.3. **Compilator** :

16.4. **Compilation date** : 09/04/2008

16.5. **Last updating date** :

16.6. **Validity date** : 09/04/2010

16.7. **Printing date** : 09/04/2008

16.8. **Pages number** : 9

16.9. **Emergency phone number:** +39/335/7803994; +39/335/1221704

Information supplied in this "Material Safety Data Sheet" is based on the best available information and our experience, and it is not exhaustive. It is applied on the product exactly as it is, in case of mixture or compound make sure that no new danger can rise.

In any case people who handle the product must respect the current law and regulation related to the product, hygiene and security on work place.

ZaCh SYSTEM

Chemical plant:
Via Dovaro
Almisano di Lonigo (VI) - ITALY
Phone +39/0444/433111
Fax +39/0444/831192

(EC) – MATERIAL SAFETY DATA SHEET
(in accordance with the Directive 91/155/CEE)

Substance:

AMIDOXIME

SdS Reach n° 02

Ed. n° 01

Page 10

Compilation date: 09/04/2008
Updating date:

Application:
☐ Active pharmaceutical ingredient
☐ Raw material ☐ Solvent
☒ Intermediate ☐ Catalyst
☐ Finished product ☐ Reagent

SUBSTANCE IDENTIFICATION

Common name: AMIDOXIME **Molecular formula :** C12H17N3O3

Use: Active pharmaceutical ingredient

Approved DS ..... **Date:**

Approved Dir. R & D ..... **Date:**

Approved by Sic ..... **Date:**

ZaCh SYSTEM Chemical plant: **Via Dovaro** **Almisano di Lonigo (VI) - ITALY** **Phone +39/0444/433111** **Fax +39/0444/831192**	(EC) – MATERIAL SAFETY DATA SHEET (in accordance with the Directive 91/155/CEE)	
	Substance: **CBZ AMINONITRILE** *SdS Reach n° 01* *Ed. n° 01*	Compilation date: 01/04/2008 Updating date:
	Page 1	Application: ☐ Active pharmaceutical ingredient ☐ Raw material ☐ Solvent ☒ Intermediate ☐ Catalyst ☐ Finished product ☐ Reagent

1. PRODUCT/COMPOUND AND COMPANY/ENTERPRISE IDENTIFICATION

1.1. **Substance/Compound identification**

1.1.1. Chemical name: Carbamic acid, N-(1-cyano-1-methylethyl)-, phenylmethyl ester

1.1.2. Common names and Synonyms : CBzamminonitrile

1.1.3. Registration Number by European Chemicals Agency:

1.2. **Substance/Compound Use**

1.2.1. Application: Active pharmaceutical ingredient

1.3. **Company/Enterprise identification**

ZACH SYSTEM S.p.A.

Via Dovaro – Almisano di Lonigo (VI) - Italy

Phone +39/0444/433111 – Fax +39/0444/831192

1.3.1. **Person responsible for placing the substance/compound on the market**

Manufacturer :

Importer :

Distributor :

1.3.2. **Competent responsible for the Safety Data Sheet**

Name:

Mail address:

1.4. **Emergency phone number**

1.4.1. Emergency phone number: +39/335/7803994; +39/335/1221704

1.4.2. Availability of phone number: always

2. HAZARDS IDENTIFICATION

2.1. **Substance/Compound Identification (Dir. 67/548/EEC or Dir.1999/45/EC)**

2.2. **Hazards for man** : The toxicological properties of the material have not been fully investigated.

2.3. **Hazards for environment** : Not available data

2.4. **Other hazards** :

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Number of CAS register** : 100134-82-5

3.2. **IUPAC Nomenclature:**

3.3. **Number of European Chemicals Agency register:**

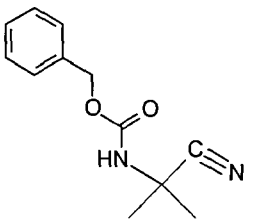
3.4. **Index Number :**

3.5. **Number of EINECS register :**

3.6. **Number of ELINCS register :**

3.7. **Molecular formula :** C12H14N2O2

3.8. **Structural formula :**



3.9. **Molecular weight** : 218,26

4. FIRST AID MEASURES

4.1. **Swallowing** : If the exposed subject is fully conscious,wash the mouth with copious amount of water to remove the product. Call in physician.

4.2. **Inhalation** : Remove immediately exposed subject to fresh air. If breathing is difficult give oxigen. If not breathing, give artificial respiration. Call in physician.

4.3. **Skin contact** : Wash off with plenty of water. Remove contaminated clothing . Call in physician.

4.4. **Eyes contact** : Rinse out with plenty of water with the eyelid held wide open. Call in physician

4.5. **Other information :**

5. FIRE-FIGHTING MEASURES

5.1. **Suitable extinguishing media** : Water, CO2,foam, powder.

5.2. **Extinguishing media to be avoided** :

5.3. **Dangerous from combustion products** :

5.4. **Special protective equipment for fire fighting** : Keep a safety distance and wear suitable protective clothing, use self-contained breathing apparatus

5.5. **Other information** :

6. ACCIDENTAL RELEASE MEASURES

6.1. **Absorbing and cleaning procedures** : Collect with mechanical instruments and wash the floor Put the residual into labeled containers to send to disposal.

6.2. **People protection** : Stop leak.Set the area. Wear protective clothing and equipment consistent with the degree of hazardous.

6.3. **Other suggestions** : Avoid raising dust and dispersing in the environment

7. HANDLING AND STORAGE

7.1. **Handling:** Depending on concentration and quantity of the hazardous substances handled wear gloves,security glasses and gas-musk with powder filter.
Handle under aspiration system.

7.2. **Storage:** Store in tight containers in fresh dry and well ventilated areas

8. INDIVIDUAL EXPOSURE/PROTECTION CONTROL

8.1. **General information** : Supply the manufacturing area with aspiration system. Avoid contact, inhalation and swallowing.

8.2. **Hygiene measures** : Do not eat or drink or smoke during handling. Avoid repeat and prolonged exposure.

8.3. **Respiratory protection** : Gas-musk equipped with combinate filter (P3)

8.4. **Hand protection** : Wear chemical resistant gloves.

8.5. **Skin protection** : Wear protective clothing

8.6. **Eyes protection** : Wear protective clothing.

8.7. **Exposure limits**

8.7.1. TLV/TWA (ACGIH, USA) :
8.7.2. TLV/CEILING (ACGIH, USA) :

Also if there is not TLV operators must use all suitable security measures to limit smokes release in atmosphere and use all necessary equipments during handling or in case of emergency intervention.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Aspect**

9.1.1. **Physical state** : Solid

9.1.2. **Colour** : White off beige

9.1.3. **Odour** : Inodour

9.2. **Important data for safety:**

9.2.1. **Water solubility** : Practically insoluble

9.2.2. **Solubility in main organic solvents** :

9.2.3. **Density** :

9.2.4. **Melting point** : 101°C

9.2.5. **Boiling point** :

9.2.6. **Flash point** :

9.2.7. **Lower and higher flash limit in air (% vol.):**

9.2.8. **Autoignition temperature** :

9.2.9. **Estimated on set temperature of exothermic behaviour** : 190° C

9.2.10. **Vapour pressure** :

9.2.11. **pH valor** :

9.2.12. **Vapor density** :

9.2.13. **Octanol/water partition rate (log P)** :

9.2.14. **Minimun oxygen concentration (LOC % v/v)** :

9.2.15. **MIE (minimum ignition energy)** :

9.2.16. **MIT (minimum ignition temperature-dust cloud)** :

9.2.17. **LIT (minimum ignition temperature – powder in strate)** :

9.2.18. **Dust explosion constant (Kst)** :

9.2.19. **Powder class (ST)** :

9.2.20. **Further information** :

10. STABILITY AND REACTIVITY

10.1. **Conditions to be avoided** : n.a.

10.2. **Materials to be avoided** : Hydroxylamine , strong acid, oxidant

10.3. **Dangerous decomposition products** :

10.4. **Other information** :

11. TOXICOLOGICAL INFORMATION

11.1. **Routes of entry:**

11.1.1. **Ingestion** : Yes

11.1.2. **Inhalation** : Yes

11.1.3. **Contact** :

11.2. **General information:**

11.3. **Acute toxicity**: **LD_{50} (oral) [mg/kg]:** n.a.

LD_{50} (skin) [mg/kg]: n.a.

LC_{50} (inhalation) [mg/l/4h]: n.a.

11.4. **Other toxicity data:**

11.5. **Chronic toxicity:**

- **Carcinogenicity** : n.a.
- **Mutagenicity** : n.a.
- **Teratogenicity** : n.a.

11.6. **Corrosive/Irritant action:**

- **Skin** : n.a.
- **Eyes** : n.a.
- **Mucous membrane** : n.a.

11.7. **Other information:**

12. ECOLOGIC INFORMATION

12.1. **Ecotoxicity** : Not available data. Handle following the good manufacturing rules, avoiding to dispersing in the environment

12.1.1. Behavior inside purification system (bacterial toxicity. Reproductive/respiratory inhibition):

12.2. **Mobility** :

12.3. **Persistence/degradability** :

12.4. **Bioaccumulation potential** :

12.5. **Other negative effects on environment** :

12.6. **Other ecological indications:** Avoid contaminate water and the ground

13. DISPOSAL CONSIDERATIONS

Dissolve or mix the material with a combustible solvent and burn in an authorized incinerator equipped with an afterburner and scrubber. In any case respect the regulation in force about disposal and waste recovery.

14. TRANSPORT INFORMATION

The substance is not classified dangerous substance according to International Transport Regulation

Proper shipping name/description:

14.1. **Road and railway transport (RID/ADR):**

Class: UN n. : Classification code : Label :

Packaging Group :

14.2. **Shipping transport (IMDG Code):**

Class : UN.n. : EmS : Label : M.POU.:

Packaging Group :

14.3. **Air transport (ICAO / IATA):**

Class : UN.n.: Label :

Packaging Group :

15. REGULATORY INFORMATION

15.1. **Labeling in accordance with ECC Directive**: 1) legal 2) temporary 3) not required

15.2. **Hazard symbol** :

15.3. **R phrases** :

15.4. **S phrases** :

15.5. **Law references:**

15.5.1. Medical checks of law: Periodic and prevent medical examinations according to physician and Italian regulations.

15.5.2. D.Lgs 334/99 and following updatings :

15.5.3. Compulsory insurance (table DPR 336/94 – Italian regulation-):

16. OTHER INFORMATION

16.1. **Notes**:
n.a. = non available

BIBLIOGRAPHY:

16.2. **Other information** :

16.3. **Compilator** :

16.4. **Compilation date** : 01/04/2008

16.5. **Last updating date** :

16.6. **Validity date** : 01/04/2010

16.7. **Printing date** : 01/04/2008

16.8. **Pages number** : 9

16.9. **Emergency phone number:** +39/335/7803994; +39/335/1221704

Information supplied in this "Material Safety Data Sheet" is based on the best available information and our experience, and it is not exhaustive. It is applied on the product exactly as it is, in case of mixture or compound make sure that no new danger can rise.

In any case people who handle the product must respect the current law and regulation related to the product, hygiene and security on work place.

ZaCh SYSTEM	(EC) – MATERIAL SAFETY DATA SHEET (in accordance with the Directive 91/155/CEE)	
Chemical plant: **Via Dovaro** **Almisano di Lonigo (VI) - ITALY** **Phone +39/0444/433111** **Fax +39/0444/831192**	*Substance:* **CBZ AMINONITRILE** *SdS Reach n° 01* *Ed. n° 01* **Page 10**	Compilation date: 01/04/2008 Updating date: Application: ☐ Active pharmaceutical ingredient ☐ Raw material ☐ Solvent ☒ Intermediate ☐ Catalyst ☐ Finished product ☐ Reagent

SUBSTANCE IDENTIFICATION

Common name: CBZ AMINO NITRILE **Molecular formula :** C12H14N2O2

Use: Active pharmaceutical ingredient

Approved DS ..... **Date:**

Approved Dir. R & D ..... **Date:**

Approved by Sic ..... **Date:**

2856
TBC Brianadd (Blue Ridge)

EPAHO106001772

7E
8-4-09
LAO
T-35

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/26/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2856

Expiration Date 6/26/2010

Generator: TBC Brinadd (Blue Ridge)
Address: 5035 McHard Rd
Blue Ridge, TX 77056

Waste Information

Name of Waste: Frascal ultra
TCEQ Waste Code #: CESQ0032
Container Type: lab pack
Detailed Description of Process Generating Waste:
Labpack from lab testing and product
Color: tan **Odor:** slight **pH:** neutral
Physical State:
Incompatibilities: strong acids and oxidizing agents
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

Morgan

SECTION 1: Generator Information

Company:	TBC-BRINADD		
Address:	5035 MCHARD RD.		
City, State, Zip:	HOUSTON, TX 77053		
Contact:	ZAC MCKAUGHAN	Title:	
Phone No:		Fax No:	
24/hr Phone:	281-541-4829		
U.S. EPA I.D. No:	TXCESQG		
State I.D.	CESQG	SIC Code:	

SECTION 2: Billing Information – ☐ Same as Above

Company:	CKG SERVICES, LLC		
Address:	10707 HONEA EGYPT RD.		
City, State, Zip:	MONTGOMERY, TX 77316		
Contact:	ZAC MCKAUGHAN	Title:	PRESIDENT
Phone No:	281-541-4829	Fax No:	936-756-1226

SECTION 3: General Description of the Waste

Name of Waste: FRASCAL ULTRA
Detailed Description of Process Generating Waste: LABPACK FROM LAB TESTING AND PRODUCT

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: TAN Odor: SLIGHT

Specific Gravity (water=1): ~~ND~~ 1 Density: ~~NA lbs~~ 8 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☒ Other (explain)
Container Size: ____ ____ ____ LAB PACK

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly
Number of Units (containers): 1 Other: ____
Texas State Waste Code No: CESQG0032
Proper U.S. DOT Shipping Name: NON HAZ/NON DOT
Class: NA UN/NA: NA PG: NA RQ: NA

EPAHO106001775

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>230F	NA neutrd	NAmg/l	NAmg/l	NA%

Oil&Grease	TOC	Zinc	Copper	Nickel
NAmg/l	NAmg/l	NAmg/l	NAmg/l	NAmg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
DIETHANOLAMINE	<1	%
HYDROCHLORIC ACID	2-4	%
CRYSTALLINE SILICA	<1	%
CITRIC ACID	2-4	%
WATER	90-98	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
NA ~~gloves~~

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
~~NA~~ strong acids and oxidizing agents

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: 0
TCLP Volatiles: 0
TCLP Semi-Volatiles: 0
Reactivity: 0
Corrosivity: 0
Ignitability: 0

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 04-17-08

Printed Name/Title: ZAC MCKAUGHAN/PRESIDENT

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Thayer

Date: 6-26-08 Approved Rejected

Approval Number: 2856

EPAHO106001776

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$85/dm ; trans ; FSC

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

5. **Treatment and Handling Protocol:**

Do not mix with acids or oxidizers. check with Gary P.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001777

7. **Tests for Product Recovered/Recycled (if applicable):**

8. **Management for Product Recovered/Recycled (if applicable);**

EPAHO106001778

713-748-8604

Attn: Morgan

TBC-BRINADD

A DIVISION OF TEXAS UNITED CHEMICAL CO., LLC

4800 San Felipe
Houston, TX 77056
(713) 877-2769

MATERIAL SAFETY DATA SHEET

Product: Fracsal Ultra **Revision: 1**
Product Code: **Issue Date: 02/11/2002**

U.S. DEPARTMENT OF LABOR, Occupational Safety and Health Administration Form Approved OMB No. 1218-0072, may be used to comply with OSHA's Hazard Communication Standard 29 CFR 1910.1200.

SECTION I - PRODUCT IDENTITY

(As used on label and list)

FRACSAL ULTRA

Proprietary Blend In Potassium Formate Brine

EMERGENCY TELEPHONE NUMBER: (713) 664-4911
INFORMATION TELEPHONE NUMBER: (713) 877-2769

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

COMMON NAME	OSHA PEL-TWA	ACGIH TLV-TWA	OTHER RECOMMENDED LIMITS	%
Diethanolamine	Not established	0.46 ppm	3 ppm	<1
Hydrochloric Acid	5 ppm C	5 ppm C	–	2-4
Crystalline silica	10 mg/m^3 $\%SiO_2 + 2$ for respirable 30 mg/m^3 for total $\%SiO_2 + 2$ *100% SiO_2 = 0.1 mg/m^3*	0.1 mg/m^3		<1
Citric Acid	Not established	Not established	–	2-4

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: 140°C

Specific Gravity (H2O = 1): N/D

Vapor Pressure (mm Hg.): N/D

Melting Point: N/A

Vapor Density (AIR = 1): N/D

Evaporation Rate (Butyl Acetate = 1): N/D

Appearance and Odor: Tan color with slight odor

Solubility in Water: N/A

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): >230°F, PMCC

Flammable Limits:

LEL: N/A
UEL: N/A

Extinguishing Media: As appropriate for surrounding area

Special Fire Fighting Procedures: In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

Unusual Fire and Explosion Hazards: May evolve oxides of carbon (COx) nitrogen (NOx) and sulfur (SOx) under fire conditions.

SECTION V - REACTIVITY DATA

Stability: Stable

Incompatibility (Materials to Avoid): None Known

Hazardous Decomposition or Byproducts: Hydrogen, Potassium Oxalate, oxides of carbon, oxides of nitrogen, oxides of sulfur

Hazardous Polymerization: Will Not Occur

Conditions to Avoid: Strong acids and Oxidizing agents

SECTION VI - HEALTH HAZARD DATA

Route(s) of Entry:

Eye	Yes
Inhalation	No
Skin	Yes
Ingestion	Yes

Carcinogenicity*:

NTP	Yes*
IARC Monographs	Yes*
OSHA Regulated	Yes*

*for crystalline silica component.

EPAHO106001780

Medical Conditions Generally Aggravated by Exposure: No Information

Emergency and First Aid Procedures

Ingestion:
Not intended for human or animal consumption, may cause nausea. Get medical attention.

Inhalation: N/A

Skin Contact:
May cause dryness to skin. Wash with soap and water.

Eye Contact:
May cause irritation and redness. Flush with water for at least 15 minutes. If irritation persists, get medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material is Released or Spilled:
Pick up with vacuum truck and return to storage or for disposal; or contain spillage with an absorbent material (sand, sawdust, kieselguhr, etc.). Scoop up and remove. Area can then be rinsed with water.

Waste Disposal Method: Dispose of in accordance with local, state and federal regulations.

Precautions to Be Taken in Handling and Storing:
Keep floors clean as surfaces subject to spills from the product can become slippery. Store in a cool, frost-free area, not in direct sunlight.

SECTION VIII - CONTROL MEASURES

Respiratory Protection: N/A

Ventilation: N/A

Protective Gloves: Rubber, vinyl, or neoprene gloves

Eye Protection: Safety glasses

Other Protective Clothing or Equipment: Rubber boots or apron

SECTION IX - REGULATORY INFORMATION

All Components on TSCA Inventory:	Yes
DOT Shipping Name:	Not Applicable
DOT Hazard Class:	Not Regulated
DOT Labels:	None
UN Number:	None
DOT Marine Pollutant:	Not Listed
Ozone Depleting Substance:	Not Listed
Schedule B Number:	2501.00.0000

SECTION X - LEGEND INFORMATION

EPAHO106001781

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissible Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer
N/A - Not Applicable

SECTION XI- REVISIONS

February 11, 2002	1.) Creation of MSDS

DISCLAIMER: The information herein is given in good faith but no warranty, expressed or implied is made.

EPAHO106001782

2831
Tenaw's

EPAHO106001783

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Luke Bibler**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2831

Expiration Date 6/14/2010

Generator: Tenaris
Address: 699 FM 3083
Conroe, TX 77301

Waste Information

Name of Waste: Diesel and water mixture
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Used diesl from machinery
Color: varies **Odor:** diesel like **pH:** neutral
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
level d

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

OK

2831 DC

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Tenaris Conroe
Address: 699 FM 3083
City: Conroe **State:** TX **Zip:** 77301
Contact: Luke Bibler **Title:** Environmental
Phone Number: 713-767-4470 **Fax Number:**
24/hr Phone Number:
US EPA ID No: TXD942559080
State ID No: 31678 **SIC Code:** NA

SECTION 2: Billing Information - ☑ **Same as Above**

Company: Tenaris
Address: 699 FM 3083
City: Conroe **State:** Tx **Zip:** 77301
Contact: Saima Baig **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Diesel and water mixture
Detailed Description of Process Generating Waste

used diesel from machinery

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: varies **Odor:** diesel like

Specific Gravity (water=1): .8-.9 **Density:** 6.7 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☐ **Single-phase** ☑ **Multi-phase**

Container Type: ☑ **Drum** ☐ **Tote** ☐ **Truck** ☐ **Other (explain)**

Frequency: ☐ **Weekly** ☑ **Monthly** ☐ **Yearly** ☐ **One-Time**
Quantity: 5

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043(please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: Recycle

Proper US DOT Shipping Name: Diesel Fuel / Kerosene
Class: 3 UN/NA: 1993 PG: III RQ: na

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>140		neutral		0	mg/l	0	mg/l	0-1	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
>1500	mg/l	0	mg/l	0	mg/l	0	mg/l	0	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
diesel	0~~-95~~-100	%
water	0-5	%
Kerosene	0-100	%

SECTION 5: Safety Related Data
If the handling of this waste requires the use of special protective equipment, please explain.
level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. none

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Sama Baig **Date:** 6/6/2008

Printed Name/Title: Sama Baig / Environmental

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Andrew Hazard
Date: 6-14-08 ☑ Approved ☐ Rejected
Approval Number: 2831

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$45.00/DRUM, FREIGHT $550/load
$350.00/ 30gal drum

2. Contamination Limit (maximum limit before surchages apply):

NA

3. Surcharge Pricing:

NA

4. Special Testing Requirements:

5. Treatment and Handling Protocol:

RECYCLE

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

ConocoPhillips

MATERIAL SAFETY DATA SHEET

Kerosene

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Kerosene
Synonyms:	1K Kerosene Dyed Kerosene K1 Kerosene; K1 Kerosene LS; K1 Super Kerosene LS K2 Kerosene Kerosine Ultra Low Sulfur Kerosene Straight Run Kerosene
Intended Use:	Fuel
Chemical Family:	Petroleum Hydrocarbon
Responsible Party:	ConocoPhillips 600 N. Dairy Ashford Houston, Texas 77079-1175
MSDS Information:	800-762-0942 MSDS@conocophillips.com
Customer Service:	800-762-0942
Technical Information:	800-527-5476

Emergency Overview

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident Call CHEMTREC:
North America: (800) 424-9300
Others: (703) 527-3887 (collect)

California Poison Control System: (800) 356-3219

Health Hazards/Precautionary Measures: Causes skin irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. Use with ventilation adequate to keep exposure below recommended limits, if any. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Flammable liquid and vapor. Keep away from heat, sparks, flames, static electricity or other sources of ignition.

Appearance:	Clear, light yellow, or light green , (may be dyed red)
Physical Form:	Liquid
Odor:	Kerosene

NFPA 704 Hazard Class:

Health:	2 (Moderate)
Flammability:	2 (Moderate)
Instability:	0 (Least)

2. COMPOSITION / INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS					
Component / CAS No:	**Concentration (wt %)**	**ACGIH:**	**OSHA:**	**NIOSH:**	**Other:**
Hydrodesulfurized Kerosene ..C9-16 64742-81-0	0-100	200 mg/m³ TWA-SKIN	NE	NE	---
Hydrotreated Distillate, Light ..C9-16 64742-47-8	0-100	200 mg/m³ TWA - SKIN (as total hydrocarbon vapor)	NE	NE	based on Kerosene 8008-20-6
Kerosene ..C9-16 8008-20-6	0-100	200 mg/m³ TWA - SKIN (as total hydrocarbon vapor)	NE	NE	---
Naphthalene 91-20-3	0-3	10 ppm TWA 52 mg/m³ TWA 15 ppm STEL 79 mg/m³ STEL	10 ppm TWA 50 mg/m³ TWA	250 ppm IDLH	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

1%=10,000 PPM.
NE=Not Established

3. HAZARDS IDENTIFICATION

Potential Health Effects

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Skin irritant. Contact may cause redness, itching, burning, and skin damage. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin, leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): Expected to have a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects expected from ingestion. ASPIRATION HAZARD - This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

Signs and Symptoms: Effects of overexposure may include irritation of the respiratory tract, irritation of the digestive tract, nausea, vomiting, pneumonitis (inflammation of the lungs), transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue).

Cancer: There is inadequate information to evaluate the cancer hazard of this material. See Section 11 for information on the individual components, if any.

Target Organs: Inadequate data available for this material.

Developmental: Inadequate evidence available for this material. See Section 11 for developmental toxicity information of individual components, if any.

Other Comments: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as Solvent or Painters' Syndrome). Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders, respiratory (asthma-like) disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin, remove contaminated shoes and clothing and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

5. FIRE-FIGHTING MEASURES

Flammable Properties:

Flash Point:	100-150°F / 38-66°C
Test Method:	Tag Closed Cup (TCC), ASTM D56
OSHA Flammability Class:	Combustible liquid
LEL%:	0.7
UEL%:	7.0
Autoignition Temperature:	410°F/210°C

Unusual Fire & Explosion Hazards: This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

Flammable. Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof electrical equipment is recommended.

Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors (see Section 5). Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Can be ignited by static discharge. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-704 and/or API RP 2003 for specific bonding/grounding requirements.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. Use good personal hygiene practices.

"Empty" containers retain residue and may 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 and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode if there is potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation, and skin damage. Examples of approved materials are nitrile or Viton® (see glove manufacturer literature for information on permeability). Depending on conditions of use, apron and/or arm covers may be necessary.

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance:	Clear, light yellow, or light green (may be dyed red)
Physical Form:	Liquid
Odor:	Kerosene
Odor Threshold:	No data
pH:	Not applicable
Vapor Pressure (mm Hg):	0.40
Vapor Density (air=1):	> 4.5
Boiling Point:	300-572°F / 149-300°C
Melting/Freezing Point:	< -40°F / -40°C
Solubility in Water:	<0.1%
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	0.775-0.840
Bulk Density:	6.73 lbs/gal
Viscosity cSt @ 40°C:	1.0-2.4
VOC Content(%):	0.16 lb/1000 gal
Percent Volatile:	98-100%@ 545°F (285°C)
Evaporation Rate (nBuAc=1):	<1
Flash Point:	100-150°F / 38-66°C
Test Method:	Tag Closed Cup (TCC), ASTM D56
LEL%:	0.7
UEL%:	7.0
Autoignition Temperature:	410°F/210°C

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Flammable liquid and vapor. Vapor can cause flash fire.

Conditions to Avoid: Avoid all possible sources of ignition (see Sections 5 and 7).

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, etc.

Hazardous Decomposition Products: Combustion can yield carbon, nitrogen and sulfur oxides. The use of hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of combustion products (e.g., oxides of carbon, sulfur and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels. See Section 11 for additional information on hazards of engine exhaust.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Chronic Data:

Hydrodesulfurized Kerosene ..C9-16 (64742-81-0)

Carcinogenicity: Petroleum middle distillates have been shown to cause skin tumors in mice following repeated and prolonged skin contact. Follow-up studies have shown that these tumors are produced through a non-genotoxic mechanism associated with frequent cell damage and repair, and that they are not likely to cause tumors in the absence of prolonged skin irritation. Animal studies have also shown that washing the skin with soap and water can reduce the tumor response. Middle distillates with low polynuclear aromatic hydrocarbon content have not been identified as a carcinogen by NTP, IARC or OSHA.

Developmental: Hydrodesulfurized kerosene applied to the skin of female rats at 494, 330, or 165 mg/kg daily for 7 consecutive weeks (premating, mating, and gestation), or for 8 consecutive weeks in males did not result in systemic, reproductive, or developmental toxicity.

Naphthalene (91-20-3)

Carcinogenicity: Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has been identified as a carcinogen by IARC and NTP.

Acute Data:

Hydrodesulfurized Kerosene ..C9-16 (64742-81-0)
Dermal LD50= >=2 g/kg (Rabbit)
LC50= >5 mg/L (4-hr., Rat)
Oral LD50= >5 g/kg (Rat)
based on Kerosene

Naphthalene (91-20-3)
Dermal LD50= >2.5 g/kg (rat)
LC50= >340 mg/m^3/1H (rat)
Oral LD50= 490 mg/kg; 2.6 g/kg (rat)

12. ECOLOGICAL INFORMATION

When No 1 distillates escape into the environment due to leaks or spills, most of their constituent hydrocarbons will evaporate and be photodegraded by reaction with hydroxyl radicals in the atmosphere. The half-lives in air for many of the individual hydrocarbons is less than one day. Less volatile hydrocarbons can persist in the aqueous environment for longer periods. They remain floating on the surface of the water; those that reach soil or sediment biodegrade relatively slowly. Soil contaminated with jet fuel can develop adapted microbial species able to use the fuel as a carbon source; soil aeration and nutrient supplementation can enhance this biodegradation.

Reported LC50/EC50 values for water-soluble fractions of kerosenes and jet fuels are usually in the range of 10 to 100 mg/liter. Adverse effects on the gills, pseudobranch, kidney and nasal mucosa have been reported in fish involved in spills of jet fuel. Juvenile clams may be particularly sensitive to marine sediments contaminated as a result of spilled jet fuel. Direct toxicity and fouling of sea birds from jet fuel can occur if birds dive through floating layers of spilled fuel.

Phytotoxic effects of jet fuel have been reported following exposure of plants to sprays or vapors. Lack of seed germination and inhibition of seedling growth may also occur. There is evidence for moderate bioaccumulation of the water-soluble hydrocarbons present in jet fuels.

13. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, is not a RCRA "listed" hazardous waste. However, it should be fully characterized for ignitability (D001) and benzene (D018) prior to disposal (40 CFR 261). Use which results in chemical or physical change or contamination may subject it to regulation as a hazardous waste. Along with properly characterizing all waste materials, consult state and local regulations regarding the proper disposal of this material.

Container contents should be completely used and containers should be emptied prior to discard. Container rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORT INFORMATION

DOT

Shipping Description: Kerosene, 3, UN1223, 111

14. TRANSPORT INFORMATION

Non-Bulk Package Marking: Kerosene, UN1223
Non-Bulk Package Labeling: Flammable
Bulk Package/Placard Marking: Flammable/1223
Packaging - References (Exceptions, Non-Bulk, Bulk): 49 CFR 173.150, 173.203, 173.242
Hazardous Substance: None
Emergency Response Guide: 128
Note: May be reclassified as a Combustible Liquid for domestic land transportation under 49 CFR 173.150(f).

IMDG

Shipping Description: UN1223, Kerosene, 3, III, (38 °C)
Non-Bulk Package Marking: Kerosene, UN1223
Labels: Flammable
Placards/Marking (Bulk): Flammable/1223
Packaging - Non-Bulk: P001, LP01
EMS: F-E, S-E

ICAO/IATA

UN/ID #: UN1223
Proper Shipping Name: Kerosene
Hazard Class/Division: 3
Packing Group: III
Subsidiary risk: None
Non-Bulk Package Marking: Kerosene, UN1223

	LTD. QTY.	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	Y309	309	310
Max. Net Qty. Per Package:	10 L	60 L	220 L

15. REGULATORY INFORMATION

U.S. Regulations:

EPA SARA 311/312 (Title III Hazard Categories)

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

SARA - Section 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:
Naphthalene.....91-20-3.....0-3%

EPA (CERCLA) Reportable Quantity (in pounds):
EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material contains the following chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372:
-- None Known --

California Proposition 65:
Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):
Benzene -- Cancer, Developmental and Reproductive Toxicant
Naphthalene -- Cancer
Toluene -- Developmental Toxicant

Carcinogen Identification:

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

TSCA:
All components are listed on the TSCA inventory.

International Regulations:

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Domestic Substances List: Listed
WHMIS Hazard Class:
B2 - Flammable Liquids
D2B - Materials Causing Other Toxic Effects - Toxic Material

16. OTHER INFORMATION

Issue Date:	21-Feb-2006
Previous Issue Date:	21-Sep-2005
Product Code:	1049855, 1049856, 1049857, 1049858, 1049859, 1049860
Revised Sections or Basis for Revision:	Product Name / Synonyms (Section 1)
MSDS Code:	682950

Disclaimer of Expressed and implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

2832
Tenaris

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Luke Bibler**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2832

Expiration Date 6/14/2010

Generator: Tenaris
Address: 699 FM 3083
Conroe, TX 77301

Waste Information

Name of Waste: Ethylene glycol
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Used as antifreeze from forklifts
Color: green **Odor:** mild **pH:** 10-12
Physical State:
Incompatibilities: peroxides, nitrates, chlorates
Safety Related Data/Special Handling:
level d

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

DRP OK

2832 DC

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Tenaris Conroe
Address: 699 FM 3083
City: Conroe **State:** TX **Zip:** 77301
Contact: Luke Bibler **Title:** Environmental
Phone Number: 713-767-4470 **Fax Number:**
24/hr Phone Number:
US EPA ID No: TXD942559080
State ID No: 31678 **SIC Code:**

SECTION 2: Billing Information - ☐ **Same as Above**

Company: Tenaris Conroe
Address: 699 FM 3080
City: Conroe **State:** TX **Zip:** 77301
Contact: Saima Baig **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Ethylene glycol
Detailed Description of Process Generating Waste

used as anti-freeze in forklifts

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: green **Odor:** mild

Specific Gravity (water=1): 1.13 **Density:** 9.42 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene AND if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☑ Monthly ☐ Yearly ☐ One-Time
Quantity: 5

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043(please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: Recycle

Proper US DOT Shipping Name: Non-RCRA, Non-DOT regulated ethylene glycol
Class: na **UN/NA:** na **PG :** na **RQ:** na

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>140		10-12		0	mg/l	0	mg/l	0-1	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
>1500	mg/l	0	mg/l	0	mg/l	0	mg/l	0	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
ethylene glycol	85-100	%
diethylene glycol	0-5	%
water	0-10	%
solids/dirt	0-1	%

SECTION 5: Safety Related Data
If the handling of this waste requires the use of special protective equipment, please explain.
level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

peroxides, nitrates, chlorates

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Saima Baig **Date:** 6/6/2008

Printed Name/Title: Saima Baig / Enviramental

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Krause
Date: 6-14-08 ☑ Approved ☐ Rejected
Approval Number: 2832

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$45.00/drum recycle, frieght $550.00 per load

2. Contamination Limit (maximum limit before surchages apply):

NA

3. Surcharge Pricing:

NA

4. Special Testing Requirements:

glycol percentage - check for water ; run water for phenols, check pH

5. Treatment and Handling Protocol:

Mix with glycols, if water is present separate water ; Drum to a glycol trailer selling to a customer.

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

mix with glycols

#4

Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Texaco Anti-Freeze/Coolant

Product Use: Antifreeze/Coolant
Product Number(s): 02353, CPS222353
Company Identification
ChevronTexaco Global Lubricants
6001 Bollinger Canyon Road
San Ramon, CA 94583
United States of America

Transportation Emergency Response
CHEMTREC: (800) 424-9300 or (703) 527-3887
Health Emergency
ChevronTexaco Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623
Product Information
email : lubemsds@chevrontexaco.com
Product Information: 800-LUBE-TEK
MSDS Requests: 800-414-6737

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	90 - 97 %weight
Diethylene glycol	111-46-6	1 - 5 %weight

SECTION 3 HAZARDS IDENTIFICATION

****

EMERGENCY OVERVIEW

- HARMFUL OR FATAL IF SWALLOWED
- POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL THAT MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA
- MAY CAUSE DAMAGE TO:
- KIDNEY

****

IMMEDIATE HEALTH EFFECTS
Eye: Not expected to cause prolonged or significant eye irritation.
Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.
Ingestion: Toxic; may be harmful or fatal if swallowed.
Inhalation: The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory

depression, tremors or convulsions, loss of consciousness, coma or death.

DELAYED OR OTHER HEALTH EFFECTS:
Reproduction and Birth Defects: Contains material that may cause birth defects based on animal data.
Target Organs: Contains material that may cause damage to the following organ(s) following repeated ingestion based on animal data: Kidney
See Section 11 for additional information. Risk depends on duration and level of exposure.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.
Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.
Ingestion: If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue.

SECTION 5 FIRE FIGHTING MEASURES

FIRE CLASSIFICATION:
OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:
Flashpoint: (Pensky-Martens Closed Cup) 127 °C (260 °F)
Autoignition: No Data Available
Flammability (Explosive) Limits (% by volume in air): Lower: 3.2 Upper:

EXTINGUISHING MEDIA: Dry Chemical, CO2, AFFF Foam or alcohol resistant foam.
PROTECTION OF FIRE FIGHTERS:
Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.
Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion. Combustion may form oxides of: Phosphorus, Potassium .

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.
Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.
Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: Wash thoroughly after handling. Do not breathe vapor or fumes. Do not taste or swallow.
General Handling Information: Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.
Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge

and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

General Storage Information: Do not store in open or unlabeled containers.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, 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. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).

Respiratory Protection: Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Ethylene Glycol	ACGIH	-	-	100 mg/m3	-

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Green
Physical State: Liquid
Odor: Faint or Mild
pH: 10.2 - 11
Vapor Pressure: <0.1 mmHg @ 20 °C (68 °F)
Vapor Density (Air = 1): 2.1 (Typical)
Boiling Point: 107.8°C (226°F)
Solubility: Miscible
Freezing Point: -36.7°C (-34°F)
Specific Gravity: 1.13 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

Viscosity: No data available
Evaporation Rate: No Data Available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Hazardous Decomposition Products: Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS
Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.
Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.
Skin Sensitization: No product toxicology data available.
Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.
Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:
This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY
The toxicity of this material to aquatic organisms has not been evaluated. Consequently, this material should be kept out of sewage and drainage systems and all bodies of water.

ENVIRONMENTAL FATE
This material is expected to be readily biodegradable.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the

criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

SECTION 14 TRANSPORT INFORMATION

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.

DOT Shipping Description: Anti-freeze Preparations, Proprietary

IMO/IMDG Shipping Description: NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE

ICAO/IATA Shipping Description: Anti-freeze Preparations, Proprietary

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES: 1. Immediate (Acute) Health Effects: YES
2. Delayed (Chronic) Health Effects: YES
3. Fire Hazard: NO
4. Sudden Release of Pressure Hazard: NO
5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Diethylene glycol	07
Ethylene Glycol	03, 05, 06, 07

CHEMICAL INVENTORIES:
All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:
Refer to components listed in Section 2.

WHMIS CLASSIFICATION:
Class D, Division 1, Subdivision B: Toxic Material - Acute Lethality
Class D, Division 2, Subdivision A: Very Toxic Material - Teratogenicity and Embryotoxicity

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 2 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 2* Flammability: 1 Reactivity: 0
(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by

the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:
Label Category : ANTIFREEZE/COOLANT 1

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 3,4,8,9,11,14,15,16
Revision Date: 09/09/2004

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - ChevronTexaco	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the ChevronTexaco Energy Research & Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

2893
Tenaris

EPAHO106001813

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Luke Bibler**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2833

Expiration Date 6/14/2010

Generator: Tenaris
Address: 699 FM 3083
Conroe, TX 77301

Waste Information

Name of Waste: Hydrocarbon and water mixture
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Changing hydraulic in machines
Color: dark **Odor:** hydrocarbon **pH:** 6-10
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
level d

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

DP
OK

2833

DC

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Tenaris Conroe
Address: 699 FM 3083
City: Conroe **State:** TX **Zip:** 77301
Contact: Luke Bibler **Title:** Environmental
Phone Number: 713-767-4470 **Fax Number:**
24/hr Phone Number:
US EPA ID No: TXD942559080
State ID No: 31678 **SIC Code:** NA

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: hydrocarbon and water mixture
Detailed Description of Process Generating Waste

changing hydraulic fluid in machines

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: dark **Odor:** hydrocarbon

Specific Gravity (water=1): 1 **Density:** 8.3 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☐ Single-phase ☑ Multi-phase

Container Type: ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☑ Monthly ☐ Yearly ☐ One-Time
Quantity: 5

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043(please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: Recycle

Proper US DOT Shipping Name: Non-RCRA, Non-DOT regulated hydrocarbon and water
Class: na **UN/NA:** na **PG :** na **RQ:** na

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>140		6-10		0	mg/l	0	mg/l	0-2	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
>1500	mg/l	0	mg/l	0	mg/l	0	mg/l	0	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
water	40-60	%
hydraulic oil	38-58	%
coolant	0-2	%

SECTION 5: Safety Related Data
If the handling of this waste requires the use of special protective equipment, please explain.
level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. none

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☑ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☑ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Saima Baig **Date:** 6/6/2008

Printed Name/Title: Saima Baig / Environmental

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Rakhi Bhavsar
Date: 6-14-08 ☑ Approved ☐ Rejected
Approval Number: 2833

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$45.00/drum recycle, Freight: $550.00/load

2. Contamination Limit (maximum limit before surchages apply):

NA

3. Surcharge Pricing:

NA

4. Special Testing Requirements:

toc on water phase, chlordtect on oil phase, flash point on oil phase
phenol, pH

5. Treatment and Handling Protocol:

Separate oil and water, treat water, mix oil with black oils

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☑ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

2834
Tenaris

EPAHO106001821

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Terry Nale**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2834

Expiration Date 6/14/2010

Generator: GATX (Plantersville)
Address: 13018 Hwy 105
Plantersville, TX 77363

Waste Information

Name of Waste: Sodium hydrosulfide solutions
TCEQ Waste Code #: Product
Container Type:
Detailed Description of Process Generating Waste:
Removal of heel prior to cleaning RCRA empty railcars
Color: yellow to dark green **Odor:** strong **pH:** 11.5-12.5
Physical State:
Incompatibilities: acids will cause the release of highly toxic H2D, not compatible with copper, zinc, aluminum, or their alloys, corrosive to steel above 150 F
Safety Related Data/Special Handling:
neoprene gloves, chem suit and boots scba if working near open tan or open tank truck dome cover

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GPP Cannot be used in sulfidic caustics. this material would have to be a waste. As a product this can be processed into the NASH tank. OK GPP

this material must be received pure + not mixed with any other materials OK

DC

Make sure we have a NASH customer outlet to sell the product. OK

We have 2834

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Material Producer Information

Company:	GATX Rail (Plantersville)		
Address:	13018 Highway 105		
City, State, Zip:	Plantersville, TX 77363		
Contact:	Terry Nale	**Title:**	
Phone No:	936-894-3483	**Fax No:**	936-894-3517
24/hr Phone:	936-494-9759		
U.S. EPA I.D. No:	TXR000042739		
State I.D.	86778	**SIC Code:**	NA

SECTION 2: Billing Information – ☐ Same as Above

Company:	GATX Rail Inc		
Address:	P.O. Box 410		
City, State, Zip:	Plantersville Tx 77363		
Contact:	Terry Nale	**Title:**	
Phone No:	936-894-3483	**Fax No:**	936-894-3517

SECTION 3: General Description of the Material / Product

Name of Material / Product: Sodium Hydrosulfide Solution
Detailed Description of Process Generating or Producing the Material / Product: removal of heel prior to cleaning RCRA empty rail cars

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: yellow to dark green **Odor:** stong

Specific Gravity (water=1): 1.152-1.303 **Density:** 9.6-10.9

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☒ Drum ☐ Tote ☐ Truck ☐ Other (explain)
Container Size: 55 gal

Frequency: ☐ Weekly ☒ Monthly ☐ Quarterly ☐ Yearly
Number of Units (containers): 5 **Other:**

Proper U.S. DOT Shipping Name: Product Corrosive Liquids, toxic, n.o.s.

Class: 8 **UN/NA:** UN2922 **PG:** II **RQ:**

Flash Point	pH	N/A	N/A	Solids
NA	11.5-12.5			<1%
Oil&Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
0mg/l	0 mg/l	0mg/l	0mg/l	0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Sodium Hydrosulfide Solution	0-10	%
Water	90-95	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
neoprene gloves, chmeical suit and boots, self contained breathing apparatus if working near open tank or open tank truck dome cover

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
acids will caust the release of highly toxic hydrogen sulfide, not compatible with copper zinc, aluminum, or their alloys, corrosive to steel above 150 degree F

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Terry L Nale **Date:** 5/16/08

Printed Name/Title: Terry L. Nale Foreman

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Technical Manager: Robert E Thyne

Date: 6-16-08 (Approved) Rejected

Approval Number: 2834

EPAHO106001824

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$250.00/drum + freight

2. **Contamination Limits (maximum limit before surcharges apply):**

None

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

pH, density, sulfides, % NaOH

5. **Treatment and Handling Protocol:**

VERY ODORUS Cannot be used in sulfidic caustics going to DeRidder.
~~Use to strengthen sulfides in caustics or mix with SIB material~~. Scrub the drum to the large scrubber while transfering materil. Process to NASH tank.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001825

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

NA

8. **Management for Product Recovered/Recycled (if applicable);**

NA

EPAHO106001826

Material Safety Data Sheet

Sodium hydrosulfide solution

MSDS Number 8000TDC (Revised: 5/3/04) 6 Pages

Section 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

1.1 Product Name ..... **Sodium hydrosulfide solution**
Chemical Family ..... Inorganic salt solution
Synonyms ..... KI-300 depressant, NaHS, sodium hydrogen sulfide
Formula ..... NaHS

1.2 Manufacturer ..... Tessenderlo Davison Chemicals, LLC
1916 Farmerville Highway
Ruston, Louisiana 71270
Information ..... (318) 242-5305

1.3 Emergency Contact ..... (800) 877-1737 (Tessenderlo Kerley)
(800) 424-9300 (CHEMTREC)

Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

2.1 Chemical Ingredients (% by wt.)

Sodium hydrosulfide	CAS #:16721-80-5	20-45%
Sodium sulfide	CAS #: 1313-84-4	<1.0% (Typical)
Sodium carbonate	CAS #: 497-19-8	<3.0% (Typical)
Water	CAS #:7732-18-5	54-79%

(See Section 8 for exposure guidelines)

Section 3: HAZARDS IDENTIFICATION

NFPA: Health - 3 Flammability - 2 Reactivity - 1

EMERGENCY OVERVIEW

Warning: Solution is highly alkaline
Contains hydrogen sulfide , a highly toxic gas.
Eye contact will cause marked eye irritation and possibly severe corneal damage. Skin contact will result in irritation and possible corrosion of the skin. Ingestion will irritate/burn mouth, throat and gastrointestinal tract. Contact with stomach acid will cause hydrogen sulfide vapors to be released. Heating or acid will cause hydrogen sulfide gas to evolve. Dilution of NaHS with water will also cause increased evolution of hydrogen sulfide.

Section 3: HAZARDS IDENTIFICATION Cont.

3.1 POTENTIAL HEALTH EFFECTS

EYE: Contact with the eyes will cause marked eye irritation and possibly severe corneal damage.

SKIN CONTACT: Contact with the skin will cause skin irritation or burning sensation. Prolonged contact will result in corrosion of the skin.

SKIN ABSORPTION: Absorption is unlikely to occur.

INGESTION: Ingestion will result in severe burning and corrosion of mouth, throat and the gastrointestinal tract. If the ingested material contacts stomach acid, highly toxic hydrogen sulfide gas will be evolved.

INHALATION: Product solution and vapors contain highly toxic hydrogen sulfide gas. Exposure to this gas causes, headaches, nausea, dizziness and vomiting. Continued exposure can lead to loss of consciousness and death..

CHRONIC EFFECTS/CARCINOGENICITY: Not listed as a carcinogen by NTP, IARC or OSHA.

Section 4: FIRST AID MEASURES

4.1 EYES: Immediately flush with large quantities of water for 15 minutes. Hold eyelids apart during irrigation to insure thorough flushing of the entire area of the eye. Obtain immediate medical attention.

4.2 SKIN: Immediately flush with large quantities of water. Remove contaminated clothing under a safety shower. Obtain immediate medical attention

4.3 INGESTION: DO NOT INDUCE VOMITING. If victim is conscious, immediately give 2 to 4 glasses of water. If vomiting does occur, repeat fluid administration. Obtain immediate medical attention.

4.4 INHALATION: Remove victim from contaminated atmosphere. If breathing is labored, administer oxygen. If breathing has ceased, clear airway and start mouth to mouth resuscitation. If heart has stopped beating, external heart massage should be applied. Obtain immediate medical attention.

Section 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

FLASH POINT: Not flammable **METHOD USED:** NA

5.2 FLAMMABLE LIMITS **Hydrogen sulfide** **LFL:** 4% **UFL:** 44%

5.3 EXTINGUISHING MEDIA: Water spray or foam or as appropriate for combustibles involved in fire.

5.4 FIRE & EXPLOSIVE HAZARDS: Solution is non-flammable. However if these solutions are exposed to heat or acids, hydrogen sulfide will be released and may form explosive mixtures with air (see above).

Keep containers/storage vessels in fire area cooled with water spray. Heating may cause the release of hydrogen sulfide vapors.

Section 5: FIRE FIGHTING MEASURES (Cont.)

5.5 FIRE FIGHTING EQUIPMENT: Because of the possible presence of toxic gases and the corrosive nature of the product, wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Small releases: Confine and absorb small releases on sand earth or other inert absorbent. Oxidize residual reactive sulfides with a weak (3-5%) hydrogen peroxide solution.

6.2 Large releases: Wear proper protective equipment. Confine area to qualified personnel. Shut off release if safe to do so. Dike spill area to prevent runoff into sewers, drains (potential explosive mixtures of hydrogen sulfide in confined spaces) or surface waterways (potential aquatic toxicity). Recover as much of the solution as possible. Treat remaining material as a small release (above).

Section 7: HANDLING and STORAGE

7.1 Handling: Wear proper protective equipment (See Section 8). Avoid breathing product vapors. Avoid contact with skin and eyes. Use only in a well ventilated area. Dilute product only in enclosed containers. Wash thoroughly after handling.

7.2 Storage: Store in well ventilated areas. Do not store combustibles in the area of storage vessels. Keep away from any sources of heat or flame. Store tote and smaller containers out of direct sunlight at moderate temperatures [<80° F (27° C)]. (See Section 10.4 for materials of construction)

Section 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

8.1 RESPIRATORY PROTECTION: If working near open container or storage vessel opening or open tank truck dome cover, wear self-contained breathing apparatus, pressure demand, MSHA/NIOSH (approved or equivalent).

8.2 SKIN PROTECTION: Neoprene rubber gloves, chemical suit and boots should be worn to prevent contact with the liquid. Wash contaminated clothing prior to reuse. Contaminated leather shoes cannot be cleaned and should be discarded.

8.3 EYE PROTECTION: Chemical goggles and a full face shield.

8.4 EXPOSURE GUIDELINES:

	OSHA		ACGIH	
	TWA	STEL	TLV	STEL
Hydrogen sulfide	20 ppm (ceiling)		10 ppm (ceiling)	

8.5 ENGINEERING CONTROLS: Use adequate exhaust ventilation to prevent inhalation of product vapors. Where feasible scrub process or storage vessel vapors with caustic solution.
Maintain eyewash/safety shower in areas where chemical is handled.

Section 9: PHYSICAL and CHEMICAL PROPERTIES

9.1 APPEARANCE:	Yellow to dark green liquid.
9.2 ODOR:	Strong hydrogen sulfide (rotten egg) odor.
9.3 BOILING POINT:	253 °F(122.8 °C) - 269 °F (131.7 °C)
9.4 VAPOR PRESSURE:	17 mm Hg @ 68 °F (20 °C)
9.5 VAPOR DENSITY: (Air = 1.0)	1.17
9.6 SOLUBILITY IN WATER:	Complete
9.7 SPECIFIC GRAVITY:	1.152 - 1.303 (9.6 - 10.9 lbs/gal)
9.8 FREEZING POINT:	0° F (-17.8° C) - 20% 56° F (13.3° C) - 45%
9.9 pH:	11.5 - 12.5
9.10 VOLATILE:	Not applicable

Section 10: STABILITY and REACTIVITY

10.1 STABILITY: This is a stable material

10.2 HAZARDOUS POLYMERIZATION: Will not occur.

10.3 HAZARDOUS DECOMPOSITION PRODUCTS: Heating this product will evolve hydrogen sulfide. Fire conditions will also cause the production of sulfur dioxide. Hydrogen sulfide (4-44%) may form flammable mixtures with air.

10.4 INCOMPATIBILITY: Acids will cause the release of highly toxic hydrogen sulfide. Sodium hydrosulfide solution is not compatible with copper, zinc, aluminum or their alloys (i.e. bronze, brass, galvanized metals, etc.). Corrosive to steel above 150° F (65.5° C). These materials of construction should not be used in handling systems or storage containers for this product (SEE Section 7.2; Storage). Dilution of NaHS with water will increase the evolution of hydrogen sulfide. Dilution should be done in an enclosed container.

Section 11: TOXICOLOGICAL INFORMATION

11.1 ORAL: Data not available

11.2 DERMAL: Data not available

11.3 INHALATION: INH-RAT LC_{50}: 444 ppm (hydrogen sulfide)
INH-MOUSE LC_{50}: 1,500 mg/m^3 18 minutes
INH-RAT LC_{50}: 1,500 mg/m^3 14 minutes

11.4 CHRONIC/CARCINOGENICITY: No evidence available

11.5 TERATOLOGY: Data not available

11.6 REPRODUCTION: Data not available

11.7 MUTAGENICITY: Data not available

Section 12: ECOLOGICAL INFORMATION

Static acute 96 hour-LC_{50} for mosquito fish is 206 mg/L. (TL_m - fresh water)
LC_{50} fly inhalation 1,500 mg/m^3, 7 minutes
TL_m Gammarus 0.84 mg/L, 96 hours (hydrogen sulfide)
TL_m Ephemera 0.316 mg/L, 96 hours (hydrogen sulfide)
TL_m Flathead minnow 0.071 – 0.55 mg/L @ 6-24°C, 96 hour flow through bioassay (hydrogen sulfide)
TL_m Bluegill 0.0090 – 0.0140 mg/L @ 20-22°C, 96 hour flow through bioassay (hydrogen sulfide)
TL_m Brook trout 0.0216 – 0.0308 mg/L @ 8-12.5°C, 96 hour flow through bioassay (hydrogen sulfide)

Section 13: DISPOSAL CONSIDERATIONS

If released to the environment for other than its intended purpose, this product contains some reactive sulfides which may be in sufficient quantity to meet the definition of a D003, hazardous waste.

Section 14: TRANSPORT INFORMATION

14.1 DOT Shipping Name:	Corrosive liquids, toxic, n.o.s.
14.2 DOT Hazard Class:	8
14.3 UN/NA Number:	UN2922 UN2949 (IMDG - over water)
14.4 Packing Group:	II
14.5 DOT Placard:	Corrosive
14.6 DOT Label(s):	Corrosive Toxic
14.7 IMO Shipping Name:	Sodium hydrosulphide solution
14.8 RQ (Reportable Quantity):	5,000 lbs (2268 Kg) 100% basis [2,604 gal (20%) 1,019 gal (45%)]
14.9 RR STCC Number:	28-123-33/49-352-04

Section 15: REGULATORY INFORMATION

15.1 OSHA:	This product is listed as a hazardous material under criteria of the Federal OSHA Hazard Communication Standard, 29 CFR 1910.1200.		
15.2 SARA TITLE III:	a.	**EHS** (Extremely Hazardous Substance) List:	No

Section 15: REGULATORY INFORMATION (Cont.)

b.	Section 311/312, (Tier I,II) Categories:	Immediate (acute)	Yes
		Fire	Yes
		Sudden release	No
		Reactivity	Yes
		Delayed (chronic)	No
c.	Section 313 (Toxic Release Report-Form R):		No
d.	**TPQ** (Threshold Planning Quantity):		No

15.3 CERCLA/SUPERFUND: RQ (Reportable Quantity) 5,000 lbs (2270 Kg)

15.4 TSCA (Toxic Substance Control Act) Inventory List: Yes

15.5 RCRA (Resource Conservation and Recovery Act) Status: D003 (See Section 13)

15.6 WHMIS (Canada) Hazard Classification: E, D1

15.7 DOT Hazardous Material: (See Section 14) Yes

15.8 CAA Hazardous Air Pollutant (HAP) No

15.9 USCG (US Coast Guard codes) SSH/SSI/SSJ/SHR

Section 16: OTHER INFORMATION

REVISIONS: The entire MSDS was reformatted to comply to ANSI Standard Z400.1-1993.

Revised Sections 1.1, 8.3, 11, 12, 5/7/02
Revised pH range in Section 8, 6/19/02
Revised shipping info & RQ data, 1/15/03
Revised Section 3, Emergency Overview & Section 10.4 to include dilution caution. 1/23/04
Revised Section 2.1, Ingredients & Section 15, added USCG Codes. 5/3/04

THE INFORMATION PUBLISHED IN THIS MATERIAL SAFETY DATA SHEET HAS BEEN COMPILED FROM OUR EXPERIENCE AND OSHA, ANSI, NFPA, DOT, ERG, AND CHRIS. IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SUITABILITY OF THIS INFORMATION FOR THE ADOPTION OF NECESSARY SAFETY PRECAUTIONS. WE RESERVE THE RIGHT TO REVISE MATERIAL SAFETY DATA SHEETS PERIODICALLY AS NEW INFORMATION BECOMES AVAILABLE.

2835
Ameriforge Grp

EPAHO106001833

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **John Crespo**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2835

Expiration Date 6/14/2010

Generator: Ameriforge Corporation
Address: 13770 Industrial Rd.
Houston, TX 77015

Waste Information

Name of Waste: Wood pallets contaminated with oil and grease
TCEQ Waste Code #: 00076031
Container Type:
Detailed Description of Process Generating Waste:
Wood pallets contaminated with oil from laying in parts washing basin
Color: dark **Odor:** none to hydrocarbon **pH:** na
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

DC

2835

CES Environmental Services, Inc.

4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Ameriforge Group Inc
Address: 13770 Industrial Road
City: Houston **State:** Tx **Zip:** 77015
Contact: Pat Sullivan **Title:** Manager of Environmental Affairs & AQS
Phone Number: 713-393-4216 **Fax Number:** 713-393-4319
24/hr Phone Number: 832-628-9967
US EPA ID No: TXR000046690
State ID No: 82538 **SIC Code:** 3462, (NAICS 332111)

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Wood Pallets Contaminated with Oil & Grease
Detailed Description of Process Generating Waste:

wood pallets contaminated with oil from laying in parts washing basin

Physical State: ☐ **Liquid** ☐ **Sludge** ☐ **Powder**
☑ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: dark **Odor:** none to hydrocarbon

Specific Gravity (water=1): na ~~1.5~~ **Density:** na ~~10 lbs/gal~~

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type: ☐ **Drum** ☐ **Tote** ☑ **Truck** ☐ **Other (explain)**

Frequency: ☐ **Weekly** ☐ **Monthly** ☑ **Yearly** ☐ **One-Time**
Quantity: 20

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is It: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: 0007-603-1

Proper US DOT Shipping Name: Non RCRA Non DOT Regulated Solids

Class: NA **UN/NA:** NA **PG:** NA **RQ:** NA

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
NA		NA		0	mg/l	0	mg/l	100	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
>1500	mg/l	0	mg/l	0	mg/l	0	mg/l	0	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Wood pallets	95-100	%
Used oils & sludge from the forging process	0-5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Standard

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. None

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

None

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	X
TCLP Volatiles:	X
TCLP Semi-Volatiles:	X
Reactivity:	X
Corrosivity:	X
Ignitability:	X

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☑ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: [signature] **Date:** 6-11-08

Printed Name/Title: Manager of Environmental Affairs and Advanced Quality Systems

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]
Date: 6-14-08 ☑ Approved ☐ Rejected

Approval # 2835

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$10.00/pallet

2. Contamination Limit (maximum limit before surchages apply):

NA

3. Surcharge Pricing:

NA

4. Special Testing Requirements:

NA

5. Treatment and Handling Protocol:

Put in class 1 solids box

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

NA

8. Management for Product Recovered/Recycled (if applicable)

NA

2836
Vertex Recovery - Pf/n

EPAHO106001841

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Baily Kirk**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2836

Expiration Date 6/14/2010

Generator: Vertex Recovery - Pflugerville
Address: 20900 FM 685
Pflugerville, TX 78660

Waste Information

Name of Waste: Oily water
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Oily water from daily operations, oil from machinery and equipment
Color: dark **Odor:** hydrocarbon **pH:** 3-11
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
none

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

SRP
OK

2836

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Vertex Recovery Pflugerville
Address: 20550 FM 685
City: Pflugerville State: TX Zip: 78660
Contact: Ty Varlet Title:
Phone Number: 1 800 777 1458 Fax Number: 512-990-1388
24/hr Phone Number:
US EPA ID No: TFCES06
State ID No: CES06 SIC Code: n/a

SECTION 2: Billing Information - ☐ Same as Above

Company: Vertex Recovery
Address: 250 Atlantic Pipeline Rd
City: Baytown State: TX Zip: 77520
Contact: Daily King Title:
Phone Number: 225 756 2682 Fax Number: 281-576 4409

SECTION 3: General Description of the Waste

Name of Waste: Oily Water
Detailed Description of Process Generating Waste:

Oily water from daily operations, oil from machinery & equipment

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Dark Odor: Hydrocarbon

Specific Gravity (water=1): 1 Density: 8.34 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☒ No
Answer "Yes" if your waste contains benzene AND if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☐ Single-phase ☑ Multi-phase

Container Type: ☐ Drum ☐ Tote ☑ Truck ☐ Other (explain)

Frequency: ☑ Weekly ☐ Monthly ☐ Yearly ☐ One-Time
Quantity: 2

EPAHO106001843

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☒ No
If "Yes", then please complete, sign and date the Underlying Hazardous Constituents form attached hereto

If "Yes", is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☒ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☒ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: Recycle

Proper US DOT Shipping Name: Non DOT/non EPA Regulated Material
Class: ~ UN/NA: ~ PG: ~ RQ: ~

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>150		3-4		~	mg/l	~	mg/l	0-1	%
Oil & Grease		TOC		Zinc		Copper		Nickel	
~	mg/l	~	mg/l	~	mg/l	~	mg/l	~	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
water	95-99	%
oil	1-5	%
mist + Sand	0-0.5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

N/A

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. N/A

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

N/A Known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals: Y
TCLP Volatiles: Y
TCLP Semi-Volatiles: Y
Reactivity: Y
Corrosivity: Y
Ignitability: Y

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Pertaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☑ YES ☒ NO
If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory*: *Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory*: *Subpart B

- ☐ Used oils
- ☑ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ Date: 6-3-08

Printed Name/Title: Ty Voigt Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____
Date: 6-14-08 ☒ Approved ☐ Rejected
Approval Number: 2836

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$0.10 /gal

2. Contamination Limit (maximum limit before surchages apply):

Std per rate sheet

3. Surcharge Pricing:

Std per rate sheet (Customer must be notified & give ok)

4. Special Testing Requirements:

test oil for Chlor-d-tect, flash, % solids ; water for pH, phenols, TSS, metals

5. Treatment and Handling Protocol:

water to WWTP ; oil to black oil

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☒ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

2887
Seatex Ltd

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Kelly Aimes**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2837

Expiration Date 6/17/2010

Generator: Seatex Ltd
Address: 445 Tx-36
Rosenberg, TX 77471

Waste Information

Name of Waste: e-core@CARBO-LIQ Plus-10
TCEQ Waste Code #: CESQ2191
Container Type:
Detailed Description of Process Generating Waste:
Off-spec
Color: hazy liquid **Odor:** slight **pH:** 6.5-7.5
Physical State:
Incompatibilities: na
Safety Related Data/Special Handling:
na

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

SRP

Name of Waste: (See MSDS) Name

DB

CES Environmental Services, Inc.

4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company:	SEATEX LTD.				
Address:	445 TX-36				
City:	ROSENBERG	**State:**	TX	**Zip:**	77471
Contact:	KELLY AIMES		**Title:**		
Phone Number:	713-357-5340		**Fax Number:**	713-357-5301	
24/hr Phone Number:	713-357-5300				
US EPA ID No:	TXCESQG				
State ID No:	CESQG		**SIC Code:**		

SECTION 2: Billing Information - ☐ **Same as Above**

Company:	CKG SERVICES				
Address:	10707 HONEA EGYPT ROAD				
City:	MONTGOMERY	**State:**	TX	**Zip:**	77316
Contact:	ZAC MCKAUGHAN		**Title:**	PRESIDENTS	
Phone Number:	281-541-4829		**Fax Number:**	936-756-1226	

SECTION 3: General Description of the Waste

Name of Waste: ~~TRADE SECRET~~ -(See MSDS) e-core® Carbo-Lig Plus-10

Detailed Description of Process Generating Waste: OFF SPEC

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: HAZY LIQUID **Odor:** SLIGHT

Specific Gravity (water=1): ND **Density:** ND lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☑ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☑ Yearly ☐ One-Time

Quantity: 281 GALLONS

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: CESQ219

Proper US DOT Shipping Name: NON HAZ/NON DOT
Class: NA UN/NA: NA PG: NA RQ: NA

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
NA		6.5-7.5		NA	mg/l	NA	mg/l	NA	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
NA	mg/l	NA	mg/l	NA	mg/l	NA	mg/l	NA	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
ISTAMUL 92	82	%
WATER	5	%
CALAMIDE C	10	%
ANTIFOAM AGENT	1	%
TEA	2	&

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

NA

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

None Known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	NA
TCLP Volatiles:	NA
TCLP Semi-Volatiles:	NA
Reactivity:	NA
Corrosivity:	NA
Ignitability:	NA

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6-9-08

Printed Name/Title: TIM MCKAUGHAN | PRESIDENT

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 6-17-08 ☑ Approved ☐ Rejected

Approval Number: 2831

11445 East Via Linda
Suite 2150,
Scottsdale, AZ 85259
480.361.4931

Version: 001

Date: 10.01.07 e-CORE® CARBO – LIQ PLUS-10 Page: 1 of 6

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

Product name: e-CORE® CARBO – LIQ Plus-10
COMPANY
E-CORE
11445 East Via Linda
Scottsdale, Arizona 85259
United States

Telephone: 001/480.361.4931
Fax: 001/480.361.4968

Emergency telephone number
Chempac 001.703.527.3887

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL FAMILY: Carbohydrate solution
Chemical characterization
–

CAS-No.	Chemical Name	Weight %	Classification
--	TRADE SECRET	100%	

Further ingredients / Impurities

CAS-No.	Chemical Name	Weight %	Classification
--	–	–	

Synonyms

3. HAZARDS IDENTIFICATION

Hazards to people and the environment
None.
Additional advice
–

EPAHO106001854

4. FIRST AID MEASURES

General advice

Inhalation
Only under extreme spray can this be harmful, Remove person out of contaminated area to fresh air. If discomfort occurs or persists, seek medical attention

Skin contact
Wash with water. Remove contaminated clothing and footwear. Wash clothing before reuse and discard footwear, which cannot be decontaminated. Seek medical attention if irritation occurs

Eye contact
Flush eyes thoroughly with plenty of water for at least 15 minutes, holding eyelids apart to ensure flushing of the entire eye surface. Washing eyes within 1 minute is essential to achieve maximum effectiveness. If eye irritation persists, consult a specialist.

Ingestion
Rinse mouth out with water. Consult a physician.

Notes to physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Use water spray, fog, foam, CO2 or dry chemical

Extinguishing media which must not be used for safety reasons
Oxidizing materials and strong mineral acids.

Special dangers caused by the substance or preparation itself, results of fire/burning, or ensuing gases
Non-determined

Special protective equipment for firefighters
In the event of fire, wear approved self- contained breathing apparatus with full-face mask and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Use approved respirator.

Environmental precautions
N/D

Methods for cleaning up
Soak up residue with noncombustible absorbent material. Shovel up spills and sweep up cleanly. Avoid contact with incompatible materials. Place spilled material in a seal able steel container for proper disposal. After all visible traces have been removed flush area with clean water.

Additional advice
Never return spills in original containers for re-use.

7. HANDLING AND STORAGE

Handling

Safe handling advice

Avoid cutting or welding of empty containers to prevent the possibility of causing fire, explosion or toxic fumes residue.

Advice on protection against fire and explosion

Keep away from open flames and high temperatures.

Storage

Requirements for storage rooms and containers

Store in a cool, dry, non-combustible building.

Advice on common storage

No materials to be specially mentioned. Observe regulations for keeping separated.

Special storage conditions

Do not store in unlabeled containers

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures

Control parameters

Chemical Name	Weight %	TLV	OEL	BEI
Trade secret	100%			

Personal protective equipment

Respiratory protection

Use adequate local exhaust ventilation where dust, mists or spray may be generated. If ventilation is not available or is inadequate use an approved respirator.

Eye protection

Safety goggles or chemical goggles, and a splash resistant face shield should be worn to prevent eye/face contact.

Hand protection

Impervious gloves should be worn. Gloves may be decontaminated by washing with mild soap and water. Natural and Butyl rubber or neoprene has been suggested.

Skin and body protection

Coveralls closed to the neck are preferred. A chemical apron should be worn when splashing of product is possible. Wear rubber boots or chemical resistant shoes. Safety showers and eyewash facilities should be accessible.

Industrial hygiene

Remove and wash contaminated clothing before re- use. Handle in accordance with good industrial hygiene and safety practice.

e-CORE CORPORATION

9. PHYSICAL AND CHEMICAL PROPERTIES

Form
Color Hazy Liquid
Odor slight
PH @ 10% 6.5 – 7.5
Boiling point/range > N/A
Melting point/range – N/A
Decomposition temperature –
Auto ignition temperature –
Oxidizing properties –
Flammability (solid, gas) –
Flash point Not determined
Explosion limits None
Vapour pressure N/A
Vapour density (Air=1,0) > N/D
Specific Gravity N/D
Bulk density –
Water solubility N/D
Fat solubility
Solubility in other solvents N/D
Partition coefficient (n-octanol/water) –
Viscosity SUS @ 100 deg.F: n/a
Other data

10. STABILITY AND REACTIVITY

Conditions to avoid
Materials to avoid Oxidizing materials and strong mineral acids
Hazardous decomposition products None known.
Further information

11. TOXICOLOGICAL INFORMATION

Acute toxicity
- Ingestion: Large amounts may cause diarrhea
- LD50 oral
- Skin contact: May cause skin irritation from repeated or prolonged contact
- LD50 dermal
- Inhalation: irritation to lungs
- LC50 inhal.
- Further information: –

Primary irritation
- Inhalation: No acute effects expected.
- Skin contact: May cause skin irritation from repeated or prolonged contact
- Eye contact: May cause slight irritation
- Ingestion: Large amounts may cause diarrhea.
- Further information: –

Chronic toxicity
- Sensitization: no data available
- Carcinogenicity: no data available
- Mutagenicity: no data available
- Reproductive toxicity: no data available
- Narcosis: no data available
- Further information: –

12. ECOLOGICAL INFORMATION

BOD5	no data	**COD**	–
Aquatic toxicity	–	**Toxicity to algae**	–
Toxicity to fish	–	**Toxicity to bacteria**	–
Bioaccumulation	no data available		
Mobility	no data available		

Persistence and degradability

Water pollution class (Germany) WGK:
Further information

13. DISPOSAL CONSIDERATIONS

EWC waste disposal No: –
Waste from residues / unused products
Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in Compliance with the Environmental Protection (Duty of Care) Regulations 1991. Can be landfilled or incinerated, when in compliance with the Environmental Protection (Duty of Care) Regulations 1991.
Contaminated packaging
Fully drained containers which are drop- and scrape- free can be treated as industrial waste, and can possibly be recycled.

14. TRANSPORT INFORMATION

UN/ID No.: N/A **Packaging group:** N/A
Labels: N/A

Road/Rail-transport (ADR/RID)
ADR/RID Class: – **Number and letter:** – **Danger code:** –
Description of the goods:
Non-hazardous polyfunctional fluid
Further information –

Sea transport IMO/IMDG
IMDG class: – **Sub risks:** **EmS:** –
IMDG page: – **MFAG:** – **Marine pollutant:** not determined
Proper shipping name: N/A
Further information –

Air transport ICAO-TI/IATA-DGR
IATA Class: – **Sub risks:**
Packing instruction (passenger aircraft):
Packing instruction (cargo aircraft):
Proper shipping name: N/A
Other information: –

e-CORE CORPORATION

15. **REGULATORY INFORMATION**

Labeling according to EC Directives

CAS-No.	EC-No.	INDEX No.	Chemical Name
Not available	–		

Symbol(s):
R-phrase(s) None
S-phrase(s) None
Exceptional labeling None
Additional advice
According to Regulation 5 of the CHIPS Regs 1994, the product is not classified as dangerous for supply.
Other national regulations
Water pollution class (Germany) WGK:
VbF class (German regulation) NU
Storage class VCI (Germany) 10/11
Störfallverordnung (Germany) –
TA Luft: class (Germany) –
Swiss toxic class: –

16. **OTHER INFORMATION**

Contact person
11445 East Via Linda
Suite 2150,
Scottsdale, AZ 85259

Approved 5668-100107

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling use, processing storage, transportation, disposal and release. It is not to be considered a warranty or quality specification. The information relates only to the specific material designated and my not be valid for such material used in combination with any other materials or in any process, unless specified in the test.

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$65/dm

2. **Contamination Limits (maximum limit before surcharges apply):**

N/A

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None-Be sure fits profile

5. **Treatment and Handling Protocol:**

Class 1 sludge Box

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001860

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable);**

Na

EPAHO106001861

2838
Trimac DSI Trans

EPAHO106001862

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Brian Apfel**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2838

Expiration Date 6/17/2010

Generator: Trimac-DSI Transporters, Inc. (Deer Park)
Address: 2401 Battleground Road
Deer Park, TX 77536

Waste Information

Name of Waste: Nonhazardous fatty acids
TCEQ Waste Code #: 02034091
Container Type:
Detailed Description of Process Generating Waste:
Removal of tank heels prior to cleaning
Color: white to yellowish **Odor:** alcohol like **pH:** 6-9
Physical State:
Incompatibilities: Oxidizing agents
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP

OK

DC

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Trimac Transporters
Address: 2401 Battleground Road
City: Deer Park **State:** TX **Zip:** 77536
Contact: Brian Apfel **Title:** Washrack Manager
Phone Number: 281-478-1000 **Fax Number:** 281-479-2005
24/hr Phone Number: 409-363-3389
US EPA ID No: TXD078446820
State ID No: 30578 **SIC Code:** NA

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Non hazardous Fatty Acids
Detailed Description of Process Generating Waste:

removal of tank heels prior to cleaning

Physical State: ☐ Liquid ☐ Sludge ☐ Powder
☑ Solid ☐ Filter Cake ☐ Combination

Color: white to yellowish **Odor:** alcohol like

Specific Gravity (water=1): ~~ND~~ NA **Density:** ~~ND~~ NA lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ **Single-phase** ☐ **Multi-phase**

Container Type: ☑ **Drum** ☐ **Tote** ☐ **Truck** ☐ **Other (explain)**

Frequency: ☐ **Weekly** ☑ **Monthly** ☐ **Yearly** ☐ **One-Time**
Quantity: 4

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: 02034091

Proper US DOT Shipping Name: Non RCRA Non DOT Regulated Materials

Class: NA **UN/NA:** NA **PG :** na **RQ:** na

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
na	6-9	0 mg/l	0 mg/l	100 %
Oil & Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
0 mg/l	0 mg/l	0 mg/l	0 mg/l	0 mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Arquad M2HTB SCp2 (Fatty Acid)	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Standard

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizing agents

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	X
TCLP Volatiles:	X
TCLP Semi-Volatiles:	X
Reactivity:	X
Corrosivity:	X
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☐ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Brian Apfel **Date:** 6/10/08

Printed Name/Title: BRIAN APFEL WASH RACK SUPERVISOR

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer:
Date: 6-17-08 ☑ Approved ☐ Rejected
Approval Number: 2838

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$65.00/drum disposal;

2. Contamination Limit (maximum limit before surchages apply):

NA

3. Surcharge Pricing:

NA

4. Special Testing Requirements:

NA Material must be a solid.

5. Treatment and Handling Protocol:

NO FREE LIQUIDS CAN BE PRESENT!! NO wash or rinse waters of any volume of this material can go to the WWTS.
Non Haz Solids box class 1

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

NA

8. Management for Product Recovered/Recycled (if applicable)

NA

Material Safety Data Sheet

AKZO NOBEL

MSDS# 15-04302

Section 1. Chemical Product and Company Identification

Product name ARQUAD® M2HTB SCP2 E

Material Uses : Surfactant.

Supplier/ Manufacturer

AKZO NOBEL SURFACE CHEMISTRY LLC
525 West Van Buren
Chicago, IL 60607-3823
www.surfactants.akzonobel.com

AKZO NOBEL CHEMICALS LTD.
1 City Centre Drive, Suite 318
Mississauga, Ontario L5B 1M2
Canada

In Case of Emergency

CHEMTREC:	800-424-9300
CANUTEC:	613-996-6666
Medical/Handling:	914-693-6946
Product/Technical:	800-906-9977

Section 2. Hazards Identification

Physical State Liquid.

Color White to yellowish.

Odor Alcohol like.

Emergency Overview

DANGER!
CAUSES EYE BURNS.
CONTAINS ETHANOL A MATERIAL WHICH MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: EYE, LENS OR CORNEA.
FLAMMABLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FLASH FIRE.
HARMFUL TO AQUATIC ORGANISMS.
MAY BE HARMFUL TO ENVIRONMENT IF RELEASED IN LARGE AMOUNTS.

TOXIC TO FISH. TOXIC TO AQUATIC ORGANISIMS. DO NOT RELEASE TO WATER.
Keep away from heat, sparks and flame. Do not get in eyes. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Avoid exposure during pregnancy. Wash thoroughly after handling. Avoid contact of spilled material and runoff with soil and surface waterways.

Possible Carcinogenic Effects

Quaternary ammonium compounds, benzylbis(hydrogenated tallow: IARC, NTP, OSHA, ACGIH: Not listed.
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl: ACGIH IARC Not listed. NTP = No Evidence. OSHA = None.
Ethanol: ACGIH A4; IARC NTP OSHA Not listed.
Isopropanol: IARC 3; ACGIH NTP OSHA Not listed.
Water: IARC, NTP, OSHA, ACGIH: Not listed.
Amines, bis(hydrogenated tallow alkyl)methyl: IARC, NTP, OSHA, ACGIH: Not listed.

Routes of Entry Absorbed through skin. Eye contact.

See Toxicological Information (section 11)

Continued on Next Page

Section 3. Composition/ Information on Ingredients

Name	CAS #	% by Weight
Quaternary ammonium compounds, benzylbis(hydrogenated tallow	61789-73-9	45-85
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl	61789-80-8	0-25
Ethanol	64-17-5	10-30
Isopropanol	67-63-0	0-5
Water	7732-18-5	0-10
Amines, bis(hydrogenated tallow alkyl)methyl	61788-63-4	0-5

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	Wash with soap and water. 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 if symptoms appear.
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.
Medical Conditions Aggravated by Overexposure	Repeated or prolonged exposure is not known to aggravate medical condition.

Section 5. Fire Fighting Measures

Flammability of the Product	Flammable.
Auto-Ignition Temperature	The lowest known value is 421°C (789.8°F) (Ethanol).
Flash Points	Closed cup: 35.6°C (96.1°F). (Pensky-Martens.)
Flammable Limits	The greatest known range is LOWER: 3.3% UPPER: 19% (Ethanol)
Products of Combustion	These products are carbon oxides (CO, CO_2), nitrogen oxides (NO, NO_2...).
Fire Hazards In Presence of Various Substances	Flammable in presence of open flames, sparks and static discharge, of heat.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.
Protective Clothing (Fire)	Be sure to use an approved/certified respirator or equivalent.
Special Remarks on Fire Hazards	Take precautionary measures against static discharges. No sparking tools should be used.

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	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.

Continued on Next Page

Other Special Considerations

Section 7. Handling and Storage

Handling Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment.

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).

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. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection

Eyes	Splash goggles.
Body	Lab coat.
Respiratory	Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.
Hands	Gloves.
Feet	Not applicable.

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.

Ingredient Name	Exposure Limits United States
Quaternary ammonium compounds, benzylbis(hydrogenated tallow	Not available.
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl	Not available.
Ethanol	**ACGIH (United States, 1996).** TWA: 1880 mg/m³ 8 hour(s). Form: TWA: 1000 ppm 8 hour(s). Form: **NIOSH REL (United States, 1994).** TWA: 1900 mg/m³ 10 hour(s). Form: TWA: 1000 ppm 10 hour(s). Form: **OSHA Final Rule (United States, 1989).** TWA: 1900 mg/m³ 8 hour(s). Form: TWA: 1000 ppm 8 hour(s). Form:
Isopropanol	**ACGIH TLV (United States, 2004). Notes: ACGIH 2003 Adoption Refers to Appendix A -- Carcinogens.** STEL: 400 ppm 15 minute(s). Form: All forms TWA: 200 ppm 8 hour(s). Form: All forms **NIOSH REL (United States, 2001).** STEL: 1225 mg/m³ 15 minute(s). Form: All forms STEL: 500 ppm 15 minute(s). Form: All forms TWA: 980 mg/m³ 10 hour(s). Form: All forms TWA: 400 ppm 10 hour(s). Form: All forms **OSHA PEL (United States, 1993).**

Continued on Next Page

	TWA: 980 mg/m³ 8 hour(s). Form: All forms TWA: 400 ppm 8 hour(s). Form: All forms **OSHA PEL 1989 (United States, 1989).** STEL: 1225 mg/m³ 15 minute(s). Form: All forms STEL: 500 ppm 15 minute(s). Form: All forms TWA: 980 mg/m³ 8 hour(s). Form: All forms TWA: 400 ppm 8 hour(s). Form: All forms
Water	Not available.
Amines, bis(hydrogenated tallow alkyl)methyl	Not available.

Section 9. Physical and Chemical Properties

Physical State	Liquid.
Color	White to yellowish.
Odor	Alcohol like.
pH	6 to 9 [Basic.]
Boiling/Condensation Point	Not determined.
Melting/Freezing Point	Not determined.
Density	Not determined.
Vapor Pressure	Not determined.
Vapor Density	Not determined.
Solubility	Easily soluble in hot water, methanol, acetone. Partially soluble in cold water.
Dispersion Properties	See solubility in water, methanol, acetone.
Physical Chemical Comments	Viscosity = 55cp @ 60C; 50cp @ 66C. (Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl)

Section 10. Stability and Reactivity

Stability and Reactivity	The product is stable.
Incompatibility with Various Substances	Reactive with OXIDIZING AGENTS. Slightly reactive to reactive with acids.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information

Toxicity to Animals

Ingredient Name or Product name	Test	Result	Route	Species
Quaternary ammonium compounds, benzylbis(hydrogenated tallow	LD50	>2000 mg/kg	Oral	Rat
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl	LD50	>5000 mg/kg	Oral	Rat
	LC50	>180 mg/l (1 hour(s))	Inhalation	Rat
Ethanol	LD50	3450 mg/kg	Oral	Mouse
	LD50	7060 mg/kg	Oral	Rat
	LD50	6300 mg/kg	Oral	Rabbit
	LC50	20000 ppm (10 hour(s))	Inhalation	Rat
Isopropanol	LD50	4710 mg/kg	Oral	Rat
	LD50	6410 mg/kg	Oral	Rabbit
	LD50	3600 mg/kg	Oral	Mouse
	LD50	12800 mg/kg	Dermal	Rabbit
	LDLo	1537 mg/kg	Oral	Dog
	LDLo	3570 mg/kg	Oral	human
	LDLo	5272 mg/kg	Oral	man
	LC50	12000 ppm (8 hour(s))	Inhalation	Rat

Continued on Next Page

	LC50	16970 ppm (4 hour(s))	Inhalation	Rat
Amines, bis(hydrogenated tallow alkyl)methyl	LD50	>5000 mg/kg	Oral	Rat based on data for: (similar material)

Chronic Effects on Humans

CARCINOGENIC EFFECTS: Classified None. by OSHA, None. by NIOSH [Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl]. Classified None. by NIOSH [Ethanol]. Classified A4 (Not classifiable for human or animal.) by ACGIH [Ethanol]. Classified None. by NIOSH [Isopropanol]. Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Isopropanol].
MUTAGENIC EFFECTS: Non-mutagenic for bacteria and/or yeast. [Isopropanol].
DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED] [Ethanol].
Contains material which causes damage to the following organs: eye, lens or cornea.
Contains material which may cause damage to the following organs: blood, the reproductive system, liver, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS).

Acute Effects Skin

Slightly irritating to the skin. Practically non-toxic in contact with skin.

Acute Effects Eyes

Corrosive to the eyes.

Special Remarks on Other Toxic Effects on Humans

:
Amines, bis(hydrogenated tallow alkyl)methyl: Skin and Eyes and Sensitization based on data for: (similar material)

Section 12. Ecological Information

Ecotoxicity

Ingredient Name or Product name	Species	Period	Result
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl	Fish (LC50)	96 hour(s)	1.33 mg/l
	Trout (LC50)	96 hour(s)	4.22 mg/l
	Algae. (EC50)	96 hour(s)	0.21 mg/l
Isopropanol	Pimephales promelas (LC50)	96 hour(s)	>100 mg/l
	Lepomis macrochirus (LC50)	96 hour(s)	>1400 mg/l
	Pimephales promelas (LC50)	96 hour(s)	6550 mg/l
	Pimephales promelas (LC50)	96 hour(s)	9640 mg/l
	Pimephales promelas (LC50)	96 hour(s)	10400 mg/l
	Pimephales promelas (LC50)	96 hour(s)	11130 mg/l
Amines, bis(hydrogenated tallow alkyl)methyl	Algae. based on data for: (similar material) (EC50)	72 hour(s)	0.12 mg/l
	Algae. based on data for: (similar material) (EC50)	72 hour(s)	0.05 mg/l

Biodegradability and Ecotoxicity Remarks

Quaternary ammonium compounds, benzylbis(hydrogenated tallow: 3% @ 28 day(s) CBT
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl: 68% @ 287 day(s) CBT
Amines, bis(hydrogenated tallow alkyl)methyl: 86% @ 14 day(s) CBT

Products of Degradation

These products are carbon oxides (CO, CO_2) and water, nitrogen oxides (NO, NO_2...).

Section 13. Disposal Considerations

Waste Information

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

RCRA Classification

D001 Ignitable Waste

Consult your local or regional authorities.

Continued on Next Page

Section 14. Transport Information

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional information
DOT Classification	UN1993	Flammable liquids, n.o.s. (Ethanol, Isopropanol)	3 -	III		-
TDG Classification	UN1993	FLAMMABLE LIQUID, N.O.S. (Ethanol, Isopropanol)	3 -	III		-
IMDG Class	UN1993	FLAMMABLE LIQUID, N.O.S. (Ethanol, Isopropanol)	3 -	III		-
IATA-DGR Class	UN1993	Flammable liquid, n.o.s. (Ethanol, Isopropanol)	3 -	III		-

Section 15. Regulatory Information

HCS Classification

Flammable liquid
Target organ effects
Corrosive Material

U.S. Federal Regulations

TSCA: All intentionally present components are listed on the TSCA inventory.

DSL: All intentionally present components are listed on the DSL.

CERCLA: Hazardous substances.: No products were found.

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: ARQUAD® M2HTB SCP2 E
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ARQUAD® M2HTB SCP2 E: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313 Form R Reporting Requirements
No products were found.

SARA 313 Supplier Notification
No products were found.

State Regulations

Pennsylvania RTK: Ethanol: (generic environmental hazard); Isopropanol: (environmental hazard, generic environmental hazard)
Massachusetts RTK: Ethanol; Isopropanol
New Jersey: Ethanol; Isopropanol

California prop. 65: No products were found.

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).
Class D-2B: Material causing other toxic effects (TOXIC).

Continued on Next Page

CEPA DSL: Quaternary ammonium compounds, benzylbis(hydrogenated tallow; Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl; Ethanol; Isopropanol; Water; Amines, bis(hydrogenated tallow alkyl)methyl

	Component	EC Number	EC Status	EC Annex
European Union	Quaternary ammonium compounds, benzylbis(hydrogenated tallow	263-082-9	Not available.	Not available.
	Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl	263-090-2	Not available.	Not available.
	Ethanol	200-578-6	Not available.	603-002-00-5
	Isopropanol	200-661-7	Not available.	603-117-00-0
	Water	231-791-2	Not available.	Not available.
	Amines, bis(hydrogenated tallow alkyl)methyl	262-991-8	Not available.	Not available.

Other International Lists

Australia (NICNAS): Quaternary ammonium compounds, benzylbis(hydrogenated tallow; Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl; Ethanol; Isopropanol; Water; Amines, bis(hydrogenated tallow alkyl)methyl

China: Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl; Isopropanol; Water

Germany water class: Isopropanol

Japan (MITI): Ethanol; Isopropanol; Amines, bis(hydrogenated tallow alkyl)methyl

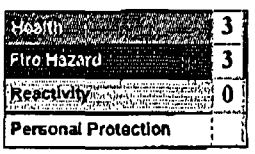
Japan (MOL): Isopropanol

Korea (TCCL): Quaternary ammonium compounds, benzylbis(hydrogenated tallow; Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl; Ethanol; Isopropanol; Water; Amines, bis(hydrogenated tallow alkyl)methyl

Philippines (RA6969): Quaternary ammonium compounds, benzylbis(hydrogenated tallow; Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl; Ethanol; Isopropanol; Water; Amines, bis(hydrogenated tallow alkyl)methyl

Section 16. Other Information

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)

Other Information Arquad® is a registered trademark of Akzo Nobel or affiliated companies and is registered in one or more countries including the United States.

Validation Date	5/11/2005.	**Validated by**	**Product Safety Specialist**
Previous Validation Date	No Previous Validation.	**Print Date**	6/8/2007.
		Phone Number	**312-544-7038**

Notice to Reader

The information in the material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable as of the date of publication. However, no warranty is made as to the accuracy of and/or sufficiency of such information and/or suggestions or as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nothing contained herein shall be construed as granting or extending any license under any patent. Buyer must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old, call to make certain that this sheet is current.

2839
Stolthaven Houston Inc

EPAHO106001877

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Pete Forline**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2839

Expiration Date 6/17/2010

Generator: Stolthaven Houston, Inc.
Address: 15602 Jacintoport Blvd.
Houston, TX 77015

Waste Information

Name of Waste: Engine room debris
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Used oil from engine room of barges
Color: brown/black **Odor:** hydrocarbon **pH:** 4-9
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP
OK

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

GP 2839

SECTION 1: Generator Information

Company: Stolthaven Houston, Inc
Address: 15602 Jacintoport Blvd
City: Houston **State:** Texas **Zip:** 77015
Contact: Pete Forline **Title:**
Phone Number: 281-860-6806 **Fax Number:** Superintendent Wastewater Dept
24/hr Phone Number: 281-860-6800
US EPA ID No: TXD980748461
State ID No: 33722 **SIC Code:**

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Engine Room ~~Waste~~ debris
Detailed Description of Process Generating Waste:
Used oil
~~Oil waste~~ from Engine Room of barges

Physical State: ☑ **Liquid** ☐ **Sludge** ☐ **Powder**
☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: brown/black **Odor:** hydrocarbon

Specific Gravity (water=1): 0.95 **Density:** 7.9 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☐ **Single-phase** ☑ **Multi-phase**

Container Type: ☐ **Drum** ☐ **Tote** ☑ **Truck** ☐ **Other (explain)**

Frequency: ☑ **Weekly** ☐ **Monthly** ☐ **Yearly** ☐ **One-Time**
Quantity: 6000 gal

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☐ No

If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☐ No

If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: Recycle

Proper US DOT Shipping Name: Non-RCRA/Non-DOT Regulated Material

Class: NA **UN/NA:** NA **PG :** NA **RQ:** NA

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>140		4-9		NA	mg/l	NA	mg/l	0-5	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
>1500	mg/l	>1500	mg/l	NA	mg/l	NA	mg/l	NA	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Oil	85-100	%
Water	0-10	%
Dirt/Debris	0-5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

standard ppe

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. ces analytical

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☑ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☑ Used oils
- ☑ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☑ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☐ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Pete Forliner Date: Jun 17, 2008

Printed Name/Title: Pete Forline Wastewater Superintendent

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]
Date: 6-17-08 ☑ Approved ☐ Rejected
Approval Number: 2839

TOTAL P.06

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

Charge $0.18/gal + $70/hr trans current fsc (4 hr-minimum)

2. **Contamination Limits (maximum limit before surcharges apply):**

std per rate sheet

3. **Surcharge Pricing:**

solids in excess of 5% charge $0.01/gal/% in excess. other surcharges per rate sheet

4. **Special Testing Requirements:**

% water, % solids, flash, Chlor-D-Tect

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☒ Subcategory B ☐ Subcategory C

EPAHO106001883

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

Chlor-d-tect, Flash, % water, % solids

8. **Management for Product Recovered/Recycled (if applicable):**

1. resell without treatment once you have specs.
2. If cannot resell directly, blend with black oil.
3. If needs treatment because water or solids are high: will need to be heated, centrifuged, & water removed. Subcat B

EPAHO106001884

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Joy Baker
Cc: Gary Lenertz, Gary Peterson, Bo Cumberland

Date: 03/03/08

From: Miles Root

Lab Memo: 08-027

Subject: **Stolthaven Oil Sludge Evaluation 0308-02**

A sample of oil sludge from Stolthaven has been evaluated for receipt and processing at CES. This is evaluation 0308-02 and represents oil from an engine room from incoming barges. This material is mostly oil with some water and solids. The solids are approximately 5% by centrifuge, but this value is only a ballpark value due to the black appearance of this material and its solids. Water is also minimal and is less than 1% by distillation. This oil has a density of 0.953 or API of 17 and has a chlor-d-tect of only 700 mg/L. Flash point is greater than 140 deg F. We can process this oil by heating to phase separate the water and the solids will come out in the centrifuge system. We should pursue the acquisition of this material for oil recovery and sales.

Sample less than 1% water

Black oil??

Quoted $0.18/gal
than @ 70/hr
for current
Currently @ Intergulf

2841
TBC Bria (Blue)

EPAHO106001886

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2841

Expiration Date 6/17/2010

Generator: TBC Brinadd (Blue Ridge)
Address: 5035 McHard Rd
Blue Ridge, TX 77056

Waste Information

Name of Waste: Xanthanum gum
TCEQ Waste Code #: CESQ4092
Container Type: cu yd sac
Detailed Description of Process Generating Waste:
Off spec/out of date
Color: cream **Odor:** flour like **pH:** 5.5-8.5
Physical State:
Incompatibilities: na
Safety Related Data/Special Handling:
na

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GR

Need Profile completed: "Haz": "No"

Physical State ~~Solid~~ OK

All else OK.

DB

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: TCB- Brinadd
Address: 5035 McHard Rd.
City: Houston **State:** TX **Zip:** 77053
Contact: Zac **Title:**
Phone Number: 281-541-4829 **Fax Number:**
24/hr Phone Number:
US EPA ID No: TXCESQG
State ID No: CESQG **SIC Code:**

SECTION 2: Billing Information - ☐ **Same as Above**

Company: CKG Services, LLC
Address: 10707 Honea Egypt Rd.
City: Montgomery **State:** TX **Zip:** 77316
Contact: Zac McKaughan **Title:** President
Phone Number: 281-541-4829 **Fax Number:** 936-756-1226

SECTION 3: General Description of the Waste

Name of Waste: Xantham Gum
Detailed Description of Process Generating Waste: off spec/out of date

Physical State: ☐ Liquid ☐ Sludge ☑ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: cream **Odor:** flour-like

Specific Gravity (water=1): ~~0.8~~ **Density:** na lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☑ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☑ Yearly ☐ One-Time
Quantity: 1 cy sack

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: CESQ4092

Proper US DOT Shipping Name: non-Hazardous/non-DOT regulated
Class: _____ **UN/NA:** _____ **PG :** _____ **RQ:** _____

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>200		5.5-8.5		na	mg/l	na	mg/l	100	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
na	mg/l	na	mg/l	na	mg/l	na	mg/l	na	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Xanthum gum	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

na

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

na

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6/3/2008

Printed Name/Title: Zac McKaughan

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 6-19-08 ☑ Approved ☐ Rejected

Approval Number: 2841

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$35/dm
$45/cy

2. **Contamination Limits (maximum limit before surcharges apply):**

N/A

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None-Be sure fits profile , No free liquids

5. **Treatment and Handling Protocol:**

Class 2 solids Box

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001893

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable);**

Na

TBC-BRINADD

A DIVISION OF TEXAS UNITED CHEMICAL CO., LLC

4800 San Felipe
Houston, TX 77056
www.tbc-brinadd.com

MATERIAL SAFETY DATA SHEET

Product: Xanthan Gum **Revision: 4**
Product Code: 6797 **Issue Date: 2/10/06**

SECTION I - PRODUCT AND COMPANY IDENTIFICATION

(As used on label and list)

Xanthan Gum

DISTRIBUTED BY:

TBC-BRINADD
5035 McHard Street
Houston, Texas 77053

EMERGENCY TELEPHONE NUMBER: (713) 664-4911
INFORMATION TELEPHONE NUMBER: (713) 877-2769

SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS

COMMON NAME	CAS-NO.	%
Xanthan Gum	11138-66-2	100

SECTION III - HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW:

Physical Appearance:
Cream colored, free-flowing powder

Odor:
Flour-like odor

Warning Statements:
CAUTION MAY CAUSE SKIN, EYE AND RESPIRATORY TRACT IRRITATION.

B. POTENTIAL HEALTH EFFECTS:

Acute Eye:

Xanthan Gum

Slightly irritating. Dust may cause redness adn irritation.

Acute Skin:
Skin absorption not likely. May cause slight transient irritation.

Acute Inhalation:
Dust may cause upper respiratory tract irritation.

Acute Ingestion:
Non-toxic.

Chronic Effects:
This product does not contain any ingredient designed by IARC, NTP, ACGIH or OSHA as probable or suspected human carconogens.

SECTION IV - FIRST AID MEASURES

FIRST AID MEASURES FOR ACCIDENTAL:

Ingestion:
Ingestion of dry powder may result in the material swelling in the throat, possibly causing blockage of the throat and choking. If the victim is conscious and alert, give 1-2 glasses of water to drink to prevent esophageal obstruction. Do not give anything by mouth to an unconscious person. Seek medical attention. Do not leave victim unattended.

Inhalation:
Remove victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardio-pulmonary resuscitation). Seek medical attention.

Skin Contact:
Incase of contact, wash with plenty of soap and water. Seek medical attention if irritation develops or persisits.

Eye Exposure:
Hold eyelids open and flush with steady, gentle stream of water for at least 15 minutes. Seek medical attention if irritation develops or persists or if visual changes occur.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED BY EXPOSURE:
Inhalation of product may aggravte existing chronic respiratory problems such as asthma, emphysema, or bronchitis.

NOTE TO PHYSICIAN:
All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Treat symptomatically. No specific antidote available.

SECTION V - FIRE FIGHTING MEASURES

FIRE HAZARD DATA:

EPAHO106001896

Flash Point:
>200°F Flammability Class: Will Burn

Method Used:
Closed Cup

Flammable Limits:

LEL: No data
UEL: No data

Extinguishing Media:
Recommended (Small fires): carbon dioxide, dry chemical. Recommended (large fire): wate, aqueous foam.

Special Fire Fighting Procedures:
Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards:
Product will burn under fire conditions. Like all organic and most dry chemicals, this product (when mixed with air in critical proportions and in the presence of an ignition source) may present an explosion hazard.

Hazardous Decomposition Materials (under Fire Conditions):
Oxides of carbon

Dust Explosivity Data:
Explosibility Index: 0.1 to 1 type of explosion is rated moderate

Ignition Sensitivity: **No data**
Explosion Severity: No data

Explosion Severity: **No data**
Cloud ignition temp: 590 C

Cloud Ignition Temp: **No data**
Min Cloud Ignition Energy: >10 milliJoules

Min Cloud Ignition Energy: **>10 milliJoules**
Layer Ignition Temp: No data

Layer Ignition Temp: No data
Max. Explosion Pressure: 6.2 bars

Max. Explosion Pressure: **6.2 bars**
Max Rate of Pressure Rise: 59 bars/sec

Max Rate of Pressure Rise: **59 bars/sec**
Min Explosion Conc.: 0.03 oz/ft^3

Min Explosion Conc.: **0.03 oz/ft^3**

SECTION VI - ACCIDENTAL RELEASE MEARSURES

EPAHO106001897

Evacuation Procedures and Safety:
CAUTION: Spilled material may become slippery when wet. Do not leave traces of product on floors, ladders, etc., as this may present a slipping hazard. Wear appropiate protective gear for the situation. See Personal Protection Information in section VIII.

Containment of Spill:
Follow procedure described below under Cleanup and Disposal of Spill.

Cleanup and Disposal of Spill:
Dry Material: Sweep up and pace in an appropriate closed container (See Section 7: Handling and Storage). Wet Material: Absorb with and inert absorbent. Shovel up into an appropiate closed container *(see Section 7: Handling adn Storage).*

Environmental and Regulatory Reporting:
Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

SECTION VII - HANDLING AND STORAGE

Miniumum/Maximum Storage Temeratures:
Not Available

Handling
Avoid breathing dust.

THIS PRODUCT MAY PRESENT A DUST EXPLOSION HAZARD:
It is recommended that all dust control equipment and material transport systems involved in handling of this product contain explosion relief vents or explosion suppression system or an oxygen deficient environment. In addition, all conductive elements of the system that contact this material should be electrically bonded and grounded. This powder should not be flowed through non-conductive ducts or pipes. Use only appropriately classed electrical equipment.

Storage:
Store in closed containers. Store in a dry area.

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

COMMON NAME	OSHA PEL-TWA	ACGIH TLV-TWA	OTHER RECOMMENDED LIMITS
Xanthan Gum	Not established	Not established	OSHA: 15 mg/m^3 (as PNOR total dust) ; 5 mg/m^3 (as PNOR respirable fraction) ACGIH: 10 mg/m^3 (as PNOC inhalable dust) ; 3 mg/m^3 (as PNOC respirable fraction)

Introductory Remarks:
These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and piping systems for maintenance and repairs. Waste resulting from these procedures should be handled in accordance with Section 13: Disposal Considerations.

EPAHO106001898

Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

Exposure Guidelines:
No exposure limits were found for this product or any of its ingredients.

Exposure Controls:
Where engineering controls are indicated by use conditions or a potintial for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposure: wet processing methods to reduce dust generation.

Respiratory Protection:
When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance withe the appropriate regulatory standards and/or industrial recommendations.

Under normal conditions, in the absence of other airborne contaminants, the following devices should provide protection from this material up to the conditions specified by the appropriate OSHA, WHMIS or ANSI standard(s): *Air-purifying (half-mask/full-face) respirator with cartridges/canister approved for use* against dusts, mists and fumes.

Eye/Face Protection:
Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate ANSI Z87 approved equipment should be selected for the particular use intended for this material.

It is generally regarded as good pracitice to wear a minimum of safey glassed whith side shields when working in industrial environments.

Skin Protection:
Skin contact should be minimized through use of gloves adn suitable long-sleeved clothing (i.e.,shirts and pants). Consideration must be given both to durability as well as permeation resistance.

Work Practice Controls:
Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handing this material:
(1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
(2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
(3) Wash exposed skin prompyly to remove accidental splashes of contact with this material.

SECTION IX - PHYSICAL AND CHEMICAL Properties

Boiling Point:
N/A

pH (1% solution):
5.5 to 8.5

Melting Point Range:
N/A

Specific Gravity (H2O = 1):
0.8 at 25 C

EPAHO106001899

Xanthan Gum

Vapor Pressure (mm Hg.):
N/A

Vapor Density (AIR = 1):
N/A

Evaporation Rate (Butyl Acetate = 1):
N/A

Physical Appearance:
Cream colored powder, free flowing powder

Odor:
flour like odor

Solubility in Water:
Soluble

SECTION X - STABILITY AND REACTIVITY

Chemical Stability:
This material is stable under normal handling and storage conditions as described in Section 7.

Conditions to Avoid:
Open flames
Excessive Heat
Sparks
Dusting Conditions

Materials/Chemicals To Be Avoid:
Strong oxidizing agents

The Following Hazardous Decomposition Products Might Be Expected:

Decompostion Type:thermal
Oxides of carbon

Hazardous Polymerization: Will Not Occur

Avoid The Following To Inhibit Hazardous Polymerization:
N/A

SECTION XI - TOXICOLOGICAL INFORMATION

Acute Eye Irritation:
No test data found for product.

Acute Skin Irritation:
No test data found for product.

Acute Dermal Toxicity:
No test data found for product.

Acute Respiratory Irritation:

Xanthan Gum

No test data found for product.

Acute Inhalation Toxicity:
No test data found for product.

Acute Oral Toxicity:
No test data found for product.

Chronic Toxicity:
Test product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "Suspected" human carcinogens.

No additional test data found for product.

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicological Information:
No data found for product

Chemical Fate Information:
No data found for product

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropiate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

Stabilize and solidify this material with compatible binders. Then place in a secure landfill.

Containers Handling and Disposal:
Any containers or equipment used should be decontaminated immediately after use.

SECTION XIV - TRANSPORTATION INFORMATION

Transportation Status: IMPORTANT! Statement below provide additional data on listed DOT classification.
The listed Transportation Classification does address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

TDG Status:
Shipping Name: NON DANGEROUS

IMO Status:
Shipping Name: NOT REGULATED

IATA STATUS:
Shipping Name: NOT REGULATED

All Components on TSCA Inventory:	Yes
DOT Shipping Name:	Not Applicable

Xanthan Gum

DOT Hazard Class:	Not Regulated
DOT Labels:	None
UN Number:	None
DOT Marine Pollutant:	Not Listed
Ozone Depleting Substance:	Not Listed
Schedule B Number:	3913.90.8000

SECTION XV - REGULATORY INFORMATION

Inventory Status

Inventory	**Status**
UNITIED STATES(TSCA0	Y
CANADA (DSL)	Y
EUROPE (EINECS/ELINCS)	Y
AUSTRALIA(AICS)	Y
JAPAN(MITI)	Y
SOUTHKOREA(KECL)	Y

Y = All ingredients are on the inventory.
E = All ingredients are on the inventory or exempt from listing.
P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.
N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

Inventory Issues:
All functional components of this product are listed on the TSCA Inventory.

WHMIS Classification:
NOT CONTROLLED

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and the MSDS contains all the information required by the CPR.

SECTION XVI - OTHER INFORMATION

National Fire Protection Association Hazard Ratings-NFPA(R):

1 Health Hazard Rating-Slight
1 Flammability Rating-Slight
0 Instability Rating-Minimal

National Paint & Coating Hazardous Materials Identification System-HMIS(R):

1 Health Hazard Rating-Slight
1 Flammability Rating-Slight
0 Reactivity Rating-Minimal

Key Legend Information:
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissible Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit

EPAHO106001902

NTP - National Toxicology Program
IARC - International Agency for Research on Cancer
N/A - Not Applicable
N/D - Not Determined

Revisions:

February 10, 2006 Rev 4	1.) Supersedes June 16, 2000 Revision 3 2.) All Sections Updated
June 16, 2000 Rev 3	1.) Supercedes January 13,1999 Rev 2 2.) Update of all information
January 13,1999 Rev 2	1.) Supercedes 2/14/94 Revision 1 2.) Update of all information

DISCLAIMER: The information herein is given in good faith but no warranty, expressed or implied is made.

2842
TBC Brian (Blue)

EPAHO106001904

7E
8-4-09
T-35
LAS

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/17/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2842

Expiration Date 6/17/2010

Generator: TBC Brinadd (Blue Ridge)
Address: 5035 McHard Rd
Blue Ridge, TX 77056

Waste Information

Name of Waste: Thixsal-ultra
TCEQ Waste Code #: CESQ4032
Container Type:
Detailed Description of Process Generating Waste:
off-spec/out of date
Color: white to yellow **Odor:** mild **pH:** na
Physical State:
Incompatibilities: na
Safety Related Data/Special Handling:
na

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GAP

Need Profile completed - Haz - "No"

All else Ok

DB

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: TCB- Brinadd
Address: 5035 McHard Rd.
City: Houston **State:** TX **Zip:** 77053
Contact: Zac **Title:**
Phone Number: 281-541-4829 **Fax Number:**
24/hr Phone Number:
US EPA ID No: TXCESQG
State ID No: CESQG **SIC Code:**

SECTION 2: Billing Information - ☐ **Same as Above**

Company: CKG Services, LLC
Address: 10707 Honea Egypt Rd.
City: Montgomery **State:** TX **Zip:** 77316
Contact: Zac McKaughan **Title:** President
Phone Number: 281-541-4829 **Fax Number:** 936-756-1226

SECTION 3: General Description of the Waste

Name of Waste: Thixsal-ultra
Detailed Description of Process Generating Waste: off spec/out of date

Physical State: ☐ Liquid ☐ Sludge ☑ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: white-yellow **Odor:** mild

Specific Gravity (water=1): na **Density:** na lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene **AND** if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☑ Yearly ☐ One-Time
Quantity: 2

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please fill out the UHC Form

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: CESQ4032

Proper US DOT Shipping Name: non-Hazardous/non-DOT regulated
Class: na **UN/NA:** na **PG:** na **RQ:** na

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
na		na		na	mg/l	na	mg/l	100	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
na	mg/l	na	mg/l	na	mg/l	na	mg/l	na	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Xanthum gum	20-40	%
derivited starch	60-80	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

na

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. MSDS

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

na

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6/3/2008

Printed Name/Title: Zac McKaughan

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 6-17-08 ☑ Approved ☐ Rejected

Approval Number: 2842

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$35/dm
$45/cy

2. **Contamination Limits (maximum limit before surcharges apply):**

N/A

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None-Be sure fits profile ; 100% solids , No free liquids

5. **Treatment and Handling Protocol:**

Class 2 solids Box

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable):**

Na

TBC-BRINADD

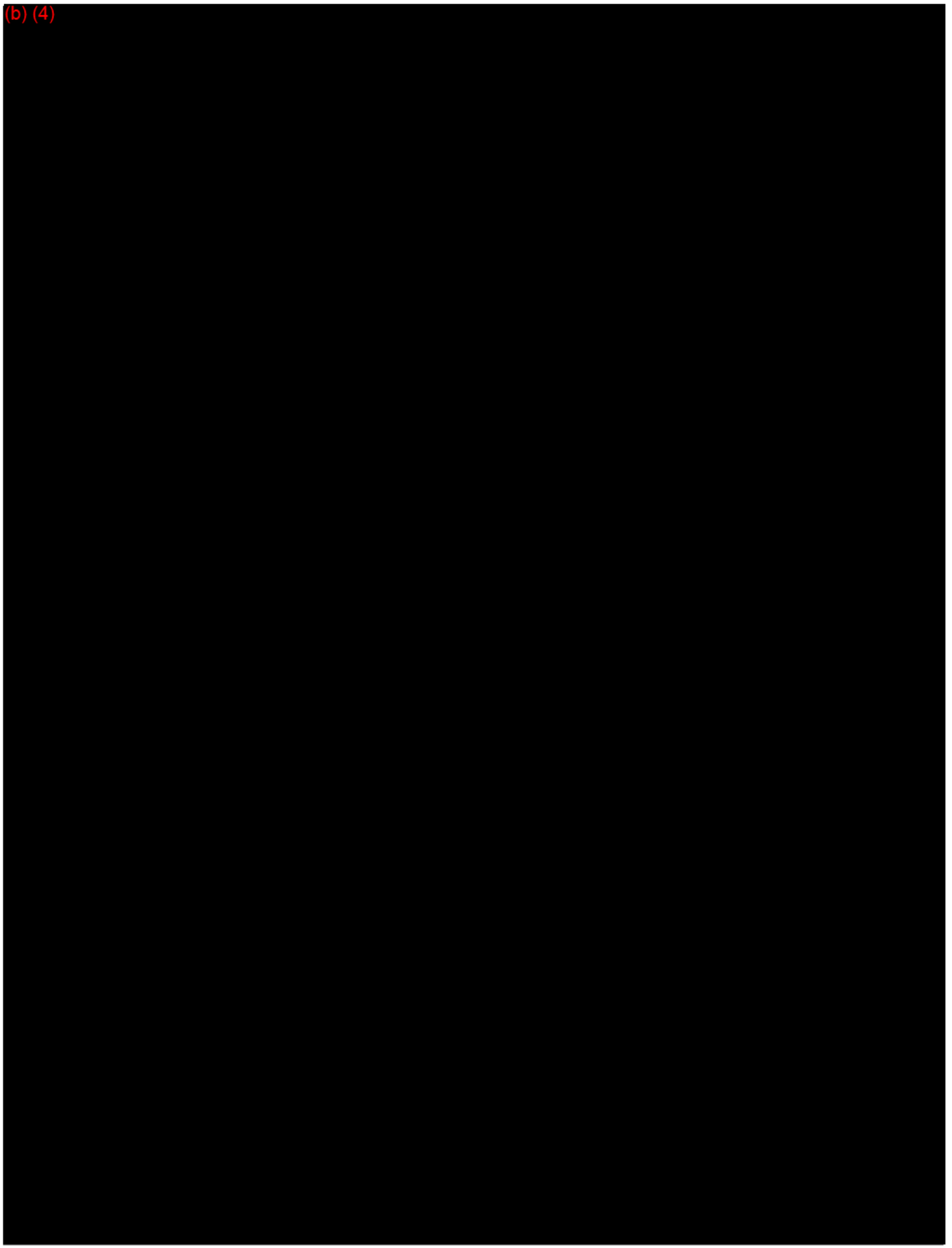
A DIVISION OF TEXAS UNITED CHEMICAL CO., LLC

4800 San Felipe
Houston, TX 77056
(713) 877-2769

MATERIAL SAFETY DATA SHEET

(b) (4)

(b) (4)



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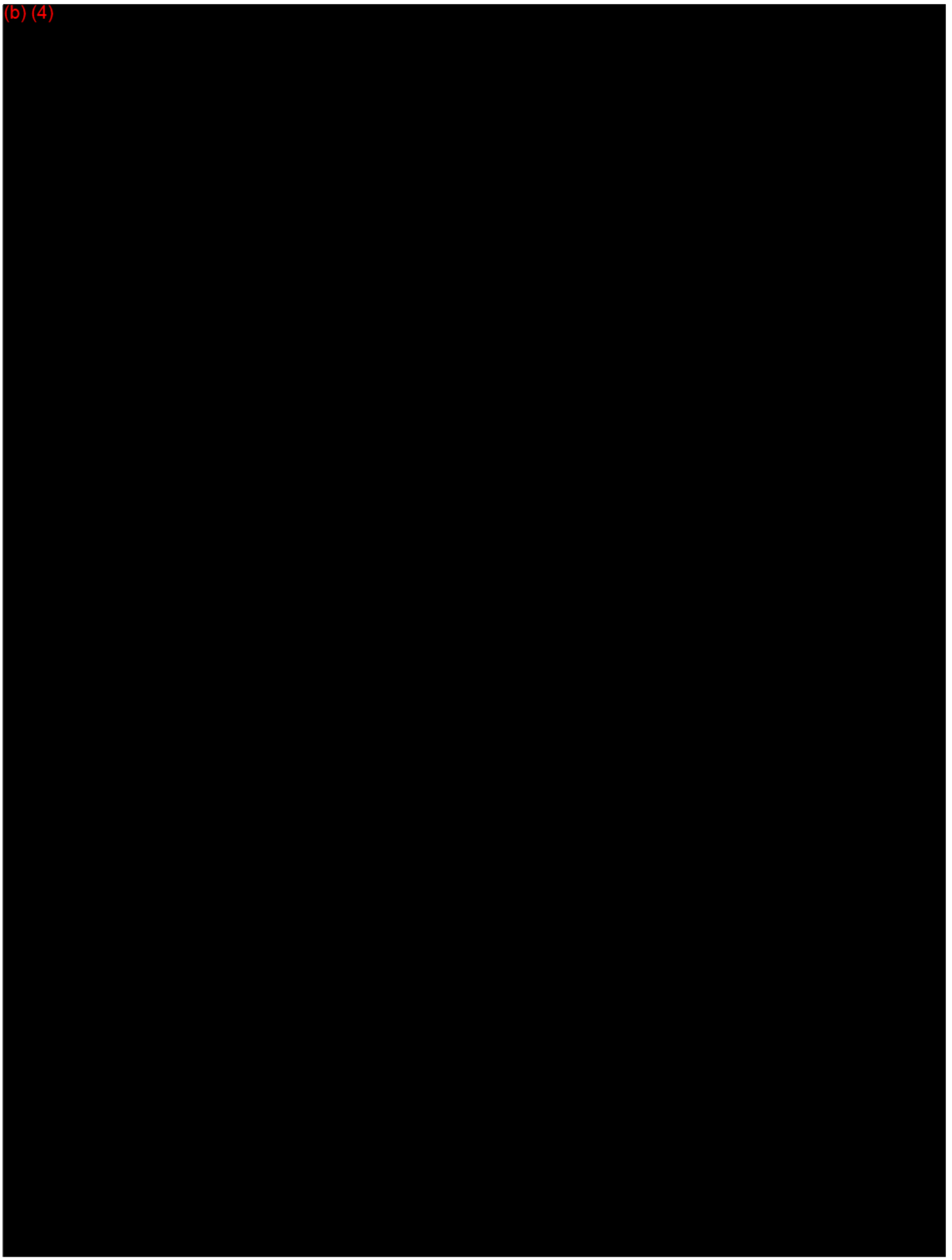

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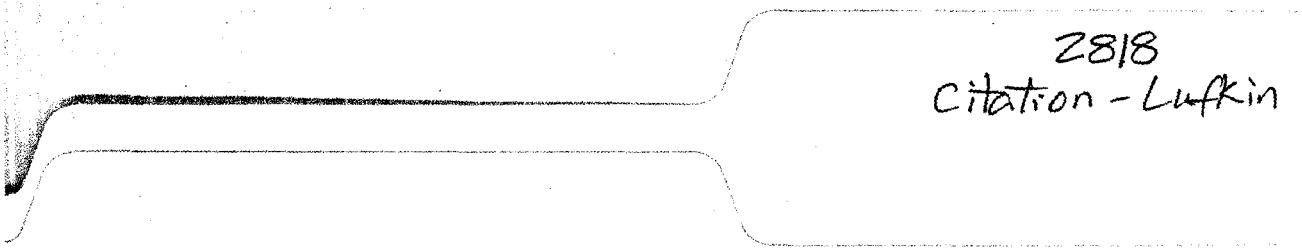


EPAHO106001919

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/10/2008**

Dear **Robert Scoggins**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2818

Expiration Date 6/10/2010

Generator: Citation-Lufkin
Address: 1611 N. Raguet
Lufkin, TX 75904-2143

Waste Information

Name of Waste: DMEA Scrubber water
TCEQ Waste Code #: 00621051
Container Type:
Detailed Description of Process Generating Waste:
Sulfuric acid water used to scrub dimethylethmine vapor
Color: brown, yellowish **Odor:** none **pH:** 2.2-7
Physical State:
Incompatibilities: Oxidizers
Safety Related Data/Special Handling:
level D

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

~~Waste is Does Hazardous~~ GRP

OK

CES Environmental Services, Inc.

4904 Griggs Road **Houston, TX 77021**
Phone: (713) 676-1460 **Fax: (713) 676-1676**
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 **ISWR No: 30900**

SECTION 1: Generator Information

Company:	Citation-Lufkin		
Address:	1611 N. Raguet		
City, State, Zip:	Lufkin, TX 75904-2143		
Contact:	Melissa Saulsbury	**Title:**	Environmental Technician
Phone No:	936-633-4189	**Fax No:**	936-633-4120
24/hr Phone:	CES-713-676-1460		
U.S. EPA I.D. No:	TXD0080669946		
State I.D.	31246	**SIC Code:**	3322

SECTION 2: Billing Information – ☐ Same as Above

Company:	Citation		
Address:	P.O. Box 3718		
City, State, Zip:	Lufkin		
Contact:	Melissa Saulsbury	**Title:**	Environmental Technician
Phone No:	936-633-4189	**Fax No:**	936-633-4120

SECTION 3: General Description of the Waste

Name of Waste: DMEA Scrubber Water
Detailed Description of Process Generating Waste: Sulfuric acid water used to scrub dimethylethamine vapor

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: brown,yellowish **Odor:** none

Specific Gravity (water=1): .90-1.01 **Density:** 8 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☐ **Single-phase** ☒ **Multi-phase**

Container Type:	☐	**Drum**	☒	**Tote**	☐ **Truck**	☐	**Other (explain)**
Container Size:		____		300	____		____

Frequency: ☐ **Weekly** ☒ **Monthly** ☐ **Quarterly** ☐ **Yearly**
Number of Units (containers): 1-2 **Other:** ____
Texas State Waste Code No: 0062/1051
Proper U.S. DOT Shipping Name: Non-RCRA; Non-DOT Regulated Material
Class: NA **UN/NA:** NA **PG:** NA **RQ:** NA

MAY-23-2008 15:49 TX FNDRY ENV P.06/17

EPAHO106001921

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>150	2.2-7.0	0mg/l	0mg/l	0-3%

Oil&Grease	TOC	Zinc	Copper	Nickel
>1500mg/l	>1500mg/l	0mg/l	0mg/l	0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Sulfuric acid	1-5	%
oil	1-3	%
dimethyethamine	0-3	%
Water	89-98	%
dirt	0-3	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
CES Evaluation

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: ____
Ignitability: ____

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☒ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Melissa Saulsbury _____ **Date:** 4-25-08

Printed Name/Title: Melissa Saulsbury / Environmental Technician

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Compliance Officer: Robert Clapp Date: 6-10-08 Approved Rejected Approval Number: 2818	

MAY-23-2008 15:49 TX FNDRY ENV P.07/17

EPAHO106001922

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☒ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☒ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

MAY-23-2008 15:49 TX FNDRY ENV P.08/17

EPAHO106001923

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$100.00/tote
Transportation $70.00/hour plus FSC

2. **Contamination Limits (maximum limit before surcharges apply):**

NA

3. **Surcharge Pricing:**

NA

4. **Special Testing Requirements:**

Standard Oily Water testing ; pH and ammonia. High Ammonia will need to go to system 1 processing. pH less than a 2 is hazardous and must be rejected.

5. **Treatment and Handling Protocol:**

Recovered petroleum products to light ends or black oil. Decant top oil phase to the oil tank, the bottom water will need to process to System 1.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☒ Subcategory B ☐ Subcategory C

MAY-23-2008 15:49 TX FNDRY ENV P.10/17

EPAHO106001924

7. **Tests for Product Recovered/Recycled (if applicable):**

Standard

8. **Management for Product Recovered/Recycled (if applicable):**

See Above

MAY-23-2008 15:50 TX FNDRY ENV P.11/17

EPAHO106001925

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Gary Brauckman
Cc: Gary Lenertz, Gary Peterson, Bo Cumberland

Date: 04/23/08

From: Miles Root

Lab Memo: 08-069

Subject: **Citation Evaluation Samples 0408-53 thru 56**

Four samples from Citation, Lufkin, have been evaluated as potential receipts for processing at CES. These samples are as follows: containment water, 0408-53; oil, 0408-54; NDT fluid, 0408-55; and a sulfuric acid stream containing DMEA, 0408-56. Overall, we will be able to take all of the mentioned streams, processing them as described below.

The containment water, evaluation 0408-53, according to the evaluation form, may have oil or hydrocarbons, but this sample does not. The water treats easily, has a low TOC, metals and phenols. Since this stream may arrive with hydrocarbons, any type of diesel, oil or gasoline that may come in with this water would need to be recycled.

The mixture of lube and mineral oils, evaluation 0408-54, is good looking light colored oil. This oil has an ash of only 0.05% with a chlor-d-tect of 200 ppm. A flash point of greater than 140 deg F and a density of 0.846 makes this a potentially good candidate for base oil.

The NDT fluid, evaluation 0408-55, contains approximately 33% recyclable oil. The neat sample appears to be an emulsion but breaks easily with just a little acid and essentially no heat. The oil separates out cleanly. The water phase treats easily. The water after treatment shows high copper that can be diluted with "good" water and processed. All of the other metals are okay. Phenols and TOC are also good. The oil has a density of 0.890 and can be blended into black oil without issues. The chlor-d-tect of only 100 ppm is very low.

The sulfuric acid stream containing DMEA, evaluation 0408-56, does not treat well. The initial pH of 1.3, when adjusted higher with lime forms a heavy sludge. Ammonia is also heavily liberated when this sample is pH adjusted with lime. The TOC on the water is 65,200, a rather high value, and to be expected. The metals are acceptable. There is a potential for receiving only 2-3 totes per month of the stream, so it can most likely be blended down with our other process water, if we can effectively handle the ammonia issue.

The table below is an analytical summary of the testing completed on the Citation evaluation samples.

2819
Gulf South Intermodal-Mandeville

EPAHO106001927

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **6/11/2008**

Dear **Jim Pearson**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2819

Expiration Date 6/10/2010

Producer: Gulf South Intermodal Mandeville
Address: 1170 West Causeway Approach
Mandeville, LA 70471

Material / Product Information

Name of Material / Product Transformer oil with PCB <50 ppm
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Reconditioning of old transformers

Color: dark **Odor:** oil like **pH:** 4-8
Physical State:
Incompatibilities: Oxidizers
Safety Related Data/Special Handling:
Level D PPE

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP

the profile paperwork is ok w/ the exception that there is not a generators Signature of profile certification.

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Material Producer Information

Company :	Gulf South Intermodal Mandeville		
Address :	1170 West Causeway Approach 1170 West Causeway Approach		
City, State, Zip :	Mandeville LA 70471		
Contact :	Jim Pearson	**Title :**	
Phone No :	(713) 213-7600	**Fax :**	
24 / HR Phone :			
U.S EPA I.D No :			
State I.D :		**SIC Code**	

SECTION 2: Billing Information

Company :	Gulf South Intermodal Mandeville		
Address :	1170 West Causeway Approach 1170 West Causeway Approach		
City, State, Zip :	Mandeville LA 70471		
Contact :	Jim Pearson	**Title :**	
Phone No :	(713) 213-7600	**Fax :**	

SECTION 3: General Description of the Material / Product

Name of Mateiral / Product : Transformer oil with PCB <50 ppm

Detailed Description of the Process Generating or Producing the Material / Product:

Reconditioning of old transformers

Physical State : ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color : dark **Odor :** oil like

Specific Gravity (Water=1) : <1 **Density :** 7-8 lbs / gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Layers : ☑ Single-Phas ☐ Multi-Phase

Container Type : ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Container Size : 55

Number Of Units : 30

Proper U.S. DOT Shipping Name : Non-RCRA/Non-DOT Regulated Material

Class : na **UN/NA :** na **PG :** na **RQ :** na

EPAHO106001929

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>200	4-8	na mg/l	na mg/l	0 %
Oil and Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
100% mg/l	na mg/l	na mg/l	na mg/l	na mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Transformer oil with <50 ppm PCB	100	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
Level D PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
Analysis

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Oxidizers

SECTION 8: Material Producer's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby cerity that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature : _____ **Date :** 6/10/2008

Printed Name / Title : n/a /

CES USE ONLY (DO NOT WRITE IN THIS SPACE) **Process Facility Information :**

Compliance Officer : Prabhakar Thangudu

Date : 6/10/2008 **Status :** Approved Rejected

Approval Number : 2819

EPAHO106001930

PRECISION PETROLEUM LABS, INC.

5915 Star Lane Houston, TX 77057
Ph. 713-680-9425 Fax: 713-680-9564

CERTIFICATE OF ANALYSIS

Company:	CES Environmental Services, Inc.
Invoice No.:	37753
Lab Reference No:	2008-06-081
Product ID:	Oil
Date Received:	06-03-2008
Authorized By:	Miles Root

PARAMETER	TEST METHOD	REPORTING LIMIT	TEST RESULT
PCB's, PPM	S.W.8082	0.05	0.62

Daniel Zabihi
QA Manager
Date:06-04-2008
BRL = Below Reporting Limit

PRECISION PETROLEUM LABS, INC.'S RESPONSIBILITY FOR THE ABOVE ANALYSIS, OPINIONS OR INTERPRETATIONS IS LIMITED TO THE INVOICE AMOUNT.

2820
Baker Hughes PMG (Oil Center Ct)

EPAHO106001932

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/11/2008**

Dear **Eileen Exito**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2820

Expiration Date 6/11/2010

Generator: Baker Hughes PMG (Oil Center Ct)
Address: 2301 Oil Center Court
Houston, TX 77073

Waste Information

Name of Waste: Gravel contaminated with diesel fuel
TCEQ Waste Code #: CESQ3191
Container Type:
Detailed Description of Process Generating Waste:
Diesel spill
Color: various **Odor:** mild diesel **pH:** 5-9
Physical State:
Incompatibilities:
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GR
OK

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Baker Hughes PMG
Address: 2301 Oil Center Court
City: Houston **State:** TX **Zip:** 77073
Contact: Dee Bond **Title:**
Phone Number: 281-230-7100 **Fax Number:**
24/hr Phone Number:
US EPA ID No: TX CESQG
State ID No: CESQG **SIC Code:**

SECTION 2: Billing Information - ☐ **Same as Above**

Company: BHBSS US General NON PO
Address: P.O. Box 4595
City: Houston **State:** TX **Zip:** 77210
Contact: Eileeen Exito **Title:**
Phone Number: 281-230-7100 **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: Gravel contaminated with Diesel Fuel
Detailed Description of Process Generating Waste:

Diesel spill

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☑ Solid ☐ Filter Cake ☐ Combination

Color: Gravel - Various **Odor:** Mild Diesel

Specific Gravity (water=1): n/a **Density:** n/a lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene AND if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☑ Yearly ☐ One-Time
Quantity: 2

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: CESQ3191

Proper US DOT Shipping Name: Non RCRA Non DOT Regulated material
Class: na UN/NA: na PG: na RQ: na

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>140 200	5-9	0 mg/l	0 mg/l	100 %

Oil & Grease	TOC	Zinc	Copper	Nickel
mg/l	mg/l	mg/l	mg/l	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Diesel Fuel	0-2	%
Gravel	98-100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Standard

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package.

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ Date: 6-4-08

Printed Name/Title: DEE W. Bond Operations Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)		
Compliance Officer: Subhash Thanga		
Date: 6-11-2008	☑ Approved	☐ Rejected
Approval Number: 2820		

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

45@/DM Trans 70@/Hr + FSC

2. Contamination Limit (maximum limit before surchages apply):

3. Surcharge Pricing:

4. Special Testing Requirements:

No free

5. Treatment and Handling Protocol:

Solid box

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

2821
Baker Hughes PMG (oil Center Ct)

EPAHO106001940

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/11/2008**

Dear **Eileen Exito**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2821

Expiration Date 6/11/2010

Generator: Baker Hughes PMG (Oil Center Ct)
Address: 2301 Oil Center Court
Houston, TX 77073

Waste Information

Name of Waste: RCRA empty drums
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Empty product drums
Color: varies **Odor:** none **pH:** 5-9
Physical State:
Incompatibilities:
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP
OK

GB

CES Environmental Services, Inc.

4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Baker Hughes PMG
Address: 2301 Oil Center Court
City: Houston **State:** TX **Zip:** 77073
Contact: Dee Bond **Title:**
Phone Number: 281-230-7100 **Fax Number:**
24/hr Phone Number:
US EPA ID No:
State ID No: **SIC Code:**

SECTION 2: Billing Information - ☐ Same as Above

Company: BHBSS US General NON PO
Address: P.O. Box 4595
City: Houston **State:** TX **Zip:** 77210
Contact: Eileeen Exito **Title:**
Phone Number: 281-230-7100 **Fax Number:**

SECTION 3: General Description of the Waste

Name of Waste: RCRA- Empty Drums
Detailed Description of Process Generating Waste:

Empty Product Drums

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☑ Solid ☐ Filter Cake ☐ Combination

Color: Varies **Odor:** None

Specific Gravity (water=1): n/a **Density:** n/a lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene AND if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)

Frequency: ☐ Weekly ☑ Monthly ☐ Yearly ☐ One-Time
Quantity:

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No

If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is It: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)

Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No

If "Yes", then please list ALL applicable codes: _____

Texas State Waste Code Number: Recycle

Proper US DOT Shipping Name: Non RCRA Non DOT Regulated material

Class: na UN/NA: na PG: na RQ: na

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
~~>140~~ >200		5-9		0	mg/l	0	mg/l	100	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
	mg/l		mg/l		mg/l		mg/l		mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Empty Drums	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Standard

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package.

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** *based upon the following generator knowledge:*

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Prtaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: [signature] **Date:** 6-4-08

Printed Name/Title: DEE W. BOND Operations Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]
Date: 6-11-08 ☑ Approved ☐ Rejected
Approval Number: 2821

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

15.00/Drum
Trans 70.00/Hr + FSC

2. Contamination Limit (maximum limit before surchages apply):

3. Surcharge Pricing:

4. Special Testing Requirements:

5. Treatment and Handling Protocol:

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

2822
Targa Midstream Services LP

EPAHO106001948

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **6/11/2008**

Dear **Orval W Lewis**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2822

Expiration Date 6/11/2010

Producer: Targa Midstream Services LP
Address: 10319 Hwy 146 North
Mont Belvieu, TX 77580

Material / Product Information

Name of Material / Product Lightend hydrocarbons
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Lightend hydrocarbons from overflow

Color: clear **Odor:** slight **pH:** neutral
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
level d ppe

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

The paperwork looks good except that the generator's signature is missing.

CES Environmental Services, Inc.

4904 Griggs Road **Houston, TX 77021**
Phone: (713) 676-1460 **Fax: (713) 676-1676**
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 **ISWR No: 30900**

SECTION 1: Material Producer Information

Company:	Targa Midstream Services LP		
Address:	10319 Hwy 146 North		
City, State, Zip:	Mont Belvieu, TX 77580		
Contact:	Orval Lewis	**Title:**	
Phone No:	281-385-3215	**Fax No:**	
24/hr Phone:	281-732-7595		
U.S. EPA I.D. No:	TXD0980625974		
State I.D.	RRGEN	**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above

Company:	Targa Midstream Services LP		
Address:	PO Box 10		
City, State, Zip:	Mont Belvieu, TX 77580		
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Material / Product

Name of Material / Product: Lightend hydrocarbons
Detailed Description of Process Generating or Producing the Material / Product: lightend hydrocarbons from overflow

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: clear **Odor:** slight

Specific Gravity (water=1): .67 **Density:** 5.6 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☒ **Single-phase** ☐ **Multi-phase**

Container Type:	☐ **Drum**	☐ **Tote**	☒ **Truck**	☐ **Other (explain)**
Container Size:			5000	

Frequency: ☐ **Weekly** ☐ **Monthly** ☒ **Quarterly** ☐ **Yearly**
Number of Units (containers): 2 **Other:**

Proper U.S. DOT Shipping Name: Product Flammable Liquids, n.o.s.

Class: 3 **UN/NA:** UN1993 **PG:** II **RQ:**

EPAHO106001950

Flash Point <140	**pH** neutral	**N/A**	N/A	**Solids** 0%
Oil&Grease 0mg/l	**TOC** namg/l	**Zinc** namg/l	**Copper** namg/l	**Nickel** namg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	Concentration	Units
The material / product consists of the following materials	**Ranges are acceptable**	**or %**
Gasoline	100	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
Standard - Level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
None

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Oxidizers

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: n/a **Date:** 6-11-08

Printed Name/Title: Orval Lewis

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: [signature]	
Date: 6-11-08 Approved Rejected	
Approval Number: 2822	

EPAHO106001951

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

Product Management - $0.15/gallon, plus freight and fuel surcharge

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

Density

5. **Treatment and Handling Protocol:**

Special handling for sale to a customer.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001952

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

8. **Management for Product Recovered/Recycled (if applicable):**

EPAHO106001953

Z823
Oxy Vinyls

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/12/2008**

Dear **Kevin White**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2823

Expiration Date 6/11/2010

Generator: Oxy Vinyls
Address: 4403 Pasadena Freeway
Pasadena, TX 77503

Waste Information

Name of Waste: Used oil
TCEQ Waste Code #: Product
Container Type:
Detailed Description of Process Generating Waste:
Transformers drained of oil
Color: clear/brown **Odor:** hydrocarbon **pH:** 4-10
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP
OK

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company: Oxy Vinyls
Address: 4403 Pasadena Freeway
City, State, Zip: Pasadena TX 77503
Contact: Jim Homisen Title:
Phone No: 281-358-4047 Fax No:
24/hr Phone:
U.S. EPA I.D. No: TXD043749092
State I.D. 38423 SIC Code:

SECTION 2: Billing Information – ☐ Same as Above

Company: Select Environmental
Address: 223 McCoy Dr.
City, State, Zip: Houston TX. 77029
Contact: Kevin White Title: Sales
Phone No: 713-675-7376 Fax No: 713-255-1761

SECTION 3: General Description of the Waste

Name of Waste: Used oil
Detailed Description of Process Generating Waste: Transformers drained of oil

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Clear/brown Odor: Hydrocarbon

Specific Gravity (water=1): 0.8 Density: 7-8 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☒ Drum ☐ Tote ☐ Truck ☐ Other (explain)
Container Size: 55 gl

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly
Number of Units (containers): 45 Other:
Texas State Waste Code No: Product
Proper U.S. DOT Shipping Name: Non RCRA / Not DOT Regulated material (Used oil)
Class: N/A UN/NA: N/A RQ: N/A RQ: N/A

EPAHO106001956

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>200	4-10	N/A mg/l	N/A mg/l	0 %

Oil&Grease	TOC	Zinc	Copper	Nickel
N/A mg/l	N/A mg/l	N/A mg/l	N/A mg/l	N/A mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Used Transformer Oil		100%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

— std

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.

✓ analytical submitted

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):

— oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: ✓
TCLP Volatiles: ✓
TCLP Semi-Volatiles: ✓
Reactivity: ✓
Corrosivity: ✓
Ignitability: ✓

SECTION 9: Generator's Certification

The information contained herein is based on [X] generator knowledge and/or [X] analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: KW for Quy Vinyls Date: 6-11-08

Printed Name/Title: KW

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Compliance Officer: [signature]	
Date: 6-11-08 Approved Rejected	
Approval Number: 2823	

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO106001958

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO106001959

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

trans only
$400/load + fuel surcharge

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

% solids, chlor-D-Test, Flash, % water

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001960

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

Keep retain sample. Run Water (ppm), flashpt if necessary.

8. **Management for Product Recovered/Recycled (if applicable):**

[redacted] transformer oil program
Resell to oil handlers.

EPAHO106001961

WEIDMANN ELECTRICAL TECHNOLOGY

WEIDMANN-ACTI INC.
8406 Scranton • Houston, TX • 77061 USA
Phone 713 595 1030 • Fax 713 595 1034
www.weidmann-acti.com

ACTI

Polychlorinated Biphenyl (PCBs)
Quality Control Report

Client Account: MIEH
Client: M & I Electric

WACTI Facility: WACTI-Texas
Test Method: PCB–EPA Method 8082
Department Supervisor: Adam Haufrect
Date Analyzed: 27 SEPT 2007
Batch Number: 2065-37
PCB Report#: 190974

Method Blank

Identification	PCB Concentration (PPM)	Aroclor	Lower Control Limit (LCL) (PPM)	Upper Control Limit (UCL) (PPM)
MB	< 1 ND	ND	--	1.0

Laboratory Control Sample (LCS)

Identification	PCB Concentration (PPM)	Aroclor	Lower Control Limit (LCL) (PPM)	Upper Control Limit (UCL) (PPM)
LCS 25	54.4	1260	42.5	57.5

Continuing Calibration Value (CCV)

Identification	PCB Concentration (PPM)	Aroclor	Lower Control Limit (LCL) (PPM)	Upper Control Limit (UCL) (PPM)
CAL 125	.17	1260	.12	.18
CAL 119	.14	1254	.12	.18
CAL 113	.18	1242	.12	.18

Method Spike/ Duplicate Spike (MS/DS)

Identification	PCB Concentration	Aroclor	Spike Recovery (%)	Lower Recovery Limit (%)	Upper Recovery Limit (%)
5492172	6.8	1260	--	--	--
5492172S	31.2	1260	102	70	130
5492172D	7.0	1260	--	--	--
5492172DS	29.9	1260	108	70	130

QC Comments:

QC Report Approved:

EPAHO106001962

WEIDMANN
ELECTRICAL TECHNOLOGY

WEIDMANN-ACTI INC.
8406 Scranton • Houston, TX • 77061 USA
Phone 713 595 1030 • Fax 713 595 1034
www.weidmann-acti.com

ACTI

Polychlorinated Biphenyls (PCBs) Report

EPA Method 8082

M&I ELECTRIC
6410 LONG DRIVE

HOUSTON, TX 77087 US
ATTN: BOBBY FJELDEN

Account: 489
PCB Order #: 190974
Date Received: 09/25/2007
Date Reported: 12/17/2007
Project ID: 855
P.O. Number: 3653
Lab Contact: A. HAUFRECT

Lab Control #	Date Sampled	Sample Identification Serial Number	Analyst ID Batch #	Date Extracted Date Analyzed	Matrix	Results	PCB Aroclor	Reporting Limit
5492167	09/25/2007	OXY PASADENA LAY DOWN YARD XFMR A26E5600CD	AH 2065-37	09/27/2007 09/27/2007	MIN	< 1.0 PPM	N	1
5492171	09/25/2007	OXY PASADENA LAY DOWN YARD XFMR HBB3023	AH 2065-37	09/27/2007 09/27/2007	MIN	14.9 PPM	1260/54	1
5492172	09/25/2007	OXY PASADENA LAY DOWN YARD XFMR PAT07140102	AH 2065-37	09/27/2007 09/27/2007	MIN	6.8 PPM	1260	1

Notations: Oils reporting units (mg/kg). Solids dry wt. reporting units (mg/kg). Wipe reporting units in micrograms (ug). Water reporting units in PPB. All other PCB tests in PPM. Quality control documentation available upon request.

The analysis, opinions or interpretations contained in this report are based upon material and information supplied by the client. Weidmann-ACTI Inc. does not imply that the contents of the sample received by this laboratory are the same as all such material in the container from which the sample was taken. Our only results only to the sample or samples tested. Any interpretations or opinions expressed represent the best judgement of Weidmann-ACTI. Weidmann-ACTI assumes no responsibility and makes no warranty or representation, expressed or implied as to the condition, productivity or proper operation of any equipment or other property for which this report may be used or relied upon for any reason whatsoever.

QC Chemist: A. HAUFRECT

EPAHO106001963

Houston, Texas
Phone: (713) 644-8182

Beaumont, Texas
Phone: (409) 838-0441

M&I Electric INDUSTRIES, INC.

Sulphur, Louisiana
Phone: (318) 528-9009

Singapore
Phone:(65) 741-2788

October 3, 2007

Oxy Vinyls, LP
4403 LaPorte Road
Pasadena, Texas 77501

Attn: Mr. Ted Kmoch

Subject: PCB Analysis Report on Three (3) Transformers in the Pasadena OxyVinyls Lay Down Yard.

Gentlemen:

Thank you for your purchase order to M&I Electric for the subject work. The work has been completed and attached for your files are the test results.

The oil was collected & tested for PCB content from transformers identified with serial numbers A26E5600CD, HBB3023 & PAT07140102 in the Lay Down Yard

Should you require additional information, please contact us at (713)644 - 8182.

Thank you,

M&I ELECTRIC INDUSTRIES, INC.

Bobby L. Fielden
Manager Testing & Services
BLF/dc

MYERS
THE TRANSFORMER CONSULTANTS

TC# 8

Customer 3756000 OXY VINYLS LP/PASADENA PVC **City** PASADENA, TX **Location** OUTDOOR/GROUND
Sub-Name PVC MAIN SUB **Unit No.** #18 **Other** **Date Printed** 01/23/04

NAMEPLATE DATA

Manufacturer	GE	Equipment Type	TRANSFORMER
Manufacture Date		Transformer Class	OA/FA
Serial No.	H-887449B	Impedence %	7.58
KVA Rating	1,500	Phase/Cycle	3/60
Primary Voltage	12,470	Liquid Type	OIL
Secondary Voltage	480	Gallons	225
Weight	8,426	Other Access	

ADDITIONAL EQUIPMENT

Radiators	Yes		Conservator Tank	No
Fans	Yes		LTC Compartment	No
Water Cooled	No		Bushing Location	Side Encl.
Oil Pumps	No		Free Breather	No
Top FPV (inch)	1.00	Plug	Hose Length (feet)	25
Bottom FPV (inch)	1.00	Valve	Service Online	Yes
Insulation Type	55C		Power Available	Yes

VISUAL INSPECTION

DATE	LEVEL	TEMP	P/V	PAINT	LEAKS
02/01/01	NORMAL	28	0.50	GOOD	NONE
03/26/02	NORMAL	28	0.50	GOOD	NONE
12/24/02	NORMAL	32	1.00	GOOD	NONE
01/07/04	NORMAL	25	-0.50	GOOD	NONE

FIELD SERVICE

DATE	SERVICE

Additional Information

Reason Not Tested

LIQUID SCREEN TEST DATA

DATE	SERVICE	ACID	IFT	DIEL 877	DIEL 1816	COLOR	SP. GRAV.	VISUAL	SEDIMENT
08/22/96		0.050 AC	21.9 UN	33 AC		2.00 AC	0.880 AC	CLEAR AC	NONE AC
09/04/97		0.050 AC	21.5 UN	36 AC		2.00 AC	0.880 AC	CLEAR AC	NONE AC
12/02/98		0.040 AC	21.7 UN	37 AC		2.00 AC	0.880 AC	CLEAR AC	NONE AC
12/02/99		0.080 QU	21.5 UN	45 AC		2.00 AC	0.880 AC	CLEAR AC	NONE AC
02/01/01		0.070 QU	21.4 UN	45 AC		2.00 AC	0.880 AC	CLEAR AC	NONE AC
03/26/02		0.070 QU	23.2 UN	40 AC		2.00 AC	0.880 AC	CLEAR AC	NONE AC
12/24/02		0.060 QU	25.0 UN	42 AC		2.00 AC	0.880 AC	CLEAR AC	NONE AC
01/07/04		0.060 QU	25.0 UN	50 AC		2.00 AC	0.880 AC	CLEAR AC	NONE AC

INHIBITOR CONTENT

DATE	PCT. BY WEIGHT

LIQUID POWER FACTOR

DATE	25 C	100 C
03/11/96	0.190 QU	6.872 UN

NOTE: STUDIES SHOW THAT A LEVEL OF.3% INHIBITOR IS OPTIMUM FOR PRESERVATION OF IN-SERVICE TRANSFORMER OILS. OILS WITH A LEVEL BELOW .08% ARE CONSIDERED TO BE UNINHIBITED.

KEY TO ABBREVIATIONS: AC - ACCEPTABLE QU - QUESTIONABLE UN - UNACCEPTABLE

SDMYERS THE TRANSFORMER CONSULTANTS

TC# 82

Customer	3756000 OXY VINYLS LP/PASADENA PVC	S/N	H-887449B			Date Printed	01/23/04
Sub-Name	PVC MAIN SUB	Mfg.	GE	Gallons	225	Primary	12,470
Location	OUTDOOR/GROUND	Unit No.	#18	KVA	1,500	Secondary	480

KARL FISCHER TESTING MOISTURE CONTENT EXPRESSED IN PPM

DATE	TEMP (C)	PPM	PCT. SATURATION		MOIST./DRY WGT. PCT.	GRADE
12/02/99	31	6	6	AC	0.56	A
12/02/99	30	5	6	AC	0.59	A
02/01/01	24	8	11	AC	0.99	A
03/26/02	10	2	7	AC	0.50	A
12/24/02	25	3	5	AC	0.51	A
01/07/04	12	1	3	AC	0.25	A

%Saturation Classifications (AC,QU,UN) are dependent on voltage class of the equipment and are based on the recommended maximum levels from IEEE Standard C57.106-2002

FURAN ANALYSIS EXPRESSED IN PPB

DATE	5H2F	2FOL	2FAL	2ACF	5M2F	TOTAL

RECOMMENDATION

CALCULATED DP EST. LIFE REMAINING

GAS-IN-OIL ANALYSIS GAS CHROMATOGRAPHY EXPRESSED IN PPM

DATE	HYDROGEN	OXYGEN	NITROGEN	METHANE	CARBON MONOXIDE	CARBON DIOXIDE	ETHANE	ETHYLENE	ACETYLEN	TOTAL COMBUST.	TOTAL GAS
08/22/96	2	20,634	70,736	4	243	1,869	1	12	ND	262	93,501
09/04/97	TRACE	14,258	71,643	4	188	1,887	2	17	ND	211	87,999
12/02/98	ND	10,339	72,259	5	258	2,363	4	22	ND	289	85,250
12/02/99	ND	9,579	70,045	4	275	2,575	1	21	ND	301	82,500
02/01/01	ND	12,341	72,669	5	271	2,691	1	22	ND	299	88,000
03/26/02	5	9,893	76,959	6	345	3,507	3	32	ND	391	90,750
12/24/02	4	9,470	74,883	5	343	3,266	2	28	ND	382	88,001
01/07/04	6	8,458	70,603	6	336	3,057	4	30	ND	382	82,500

RECOMMENDATION RETEST 1 YEAR

B-THE ANALYSIS OF THIS SAMPLE SHOWS NO SIGNIFICANT INCREASE IN THE COMBUSTIBLE GAS VOLUME.

ICP METALS-IN-OIL EXPRESSED IN PPM

DATE	ALUMINUM	IRON	COPPER

RECOMMENDATION

PCB CONTENT EXPRESSED IN PPM

DATE	1242	1254	1260	OTHER	TOTAL
02/26/96			2		2
08/22/96			2		2

COLOR LABEL: Green **CLASS:** NON-PCB

Results in mg/kg
ND means "none detected"
(<2 mg/kg per ATSM D4059)

SD MYERS
THE TRANSFORMER CONSULTANTS

TC# 8

Customer	3756000 OXY VINYLS LP/PASADENA PVC	**City**	PASADENA, TX	**Location**	OUTDOOR/GROUND
Sub-Name	EXPANSION 7	**Unit No.**	TR-20	**Other**	**Date Printed** 01/23/04

NAMEPLATE DATA

Manufacturer	COOPER	**Equipment Type**	TRANSFORMER
Manufacture Date	06/01/96	**Transformer Class**	OA/FA
Serial No.	966001396	**Impedence %**	5.45
KVA Rating	5,000	**Phase/Cycle**	3/60
Primary Voltage	12,470	**Liquid Type**	OIL
Secondary Voltage	2,400	**Gallons**	883
Weight	23,925	**Other Access**	EXPLOSION VENT

ADDITIONAL EQUIPMENT

Radiators	Yes		**Conservator Tank**	No
Fans	Yes		**LTC Compartment**	No
Water Cooled	No		**Bushing Location**	Side Encl.
Oil Pumps	No		**Free Breather**	No
Top FPV (inch)	1.00	Valve	**Hose Length (feet)**	40
Bottom FPV (inch)	2.00	Valve	**Service Online**	Yes
Insulation Type	55/65C		**Power Available**	Yes

VISUAL INSPECTION

DATE	LEVEL	TEMP	P/V	PAINT	LEAKS
12/02/99	NORMAL	32	0.50	GOOD	NONE
02/01/01	NORMAL	31	0.00	GOOD	NONE
03/26/02	NORMAL	31	0.00	GOOD	NONE
01/07/04	NORMAL	25	0.50		

FIELD SERVICE

DATE	SERVICE

Additional Information

Reason Not Tested

LIQUID SCREEN TEST DATA

DATE	SERVICE	ACID	IFT	DIEL 877	DIEL 1816	COLOR	SP. GRAV.	VISUAL	SEDIMENT
09/04/97		0.020 AC	39.6 AC	41 AC		0.50 AC	0.870 AC	CLEAR AC	NONE AC
12/02/98		0.020 AC	33.4 AC	40 AC		0.50 AC	0.870 AC	CLEAR AC	NONE AC
12/02/99		0.020 AC	31.1 QU	39 AC		0.75 AC	0.870 AC	CLEAR AC	NONE AC
02/01/01		0.020 AC	32.3 AC	44 AC		1.00 AC	0.870 AC	CLEAR AC	NONE AC
03/26/02		0.040 AC	32.1 AC	42 AC		1.00 AC	0.870 AC	CLEAR AC	NONE AC
01/07/04		0.030 AC	30.0 QU	50 AC		1.00 AC	0.870 AC	CLEAR AC	NONE AC

INHIBITOR CONTENT

DATE	PCT. BY WEIGHT

LIQUID POWER FACTOR

DATE	25 C	100 C

NOTE: STUDIES SHOW THAT A LEVEL OF.3% INHIBITOR IS OPTIMUM FOR PRESERVATION OF IN-SERVICE TRANSFORMER OILS. OILS WITH A LEVEL BELOW .08% ARE CONSIDERED TO BE UNINHIBITED.

KEY TO ABBREVIATIONS AC = ACCEPTABLE, [illegible] = QUESTIONABLE, [illegible] = UNACCEPTABLE

MYERS
THE TRANSFORMER CONSULTANTS

TC# 88

Customer	3756000 OXY VINYLS LP/PASADENA PVC	S/N	966001396			Date Printed	01/23/04
Sub-Name	EXPANSION 7	Mfg.	COOPER	Gallons	883	Primary	12,470
Location	OUTDOOR/GROUND	Unit No.	TR-20	KVA	5,000	Secondary	2,400

KARL FISCHER TESTING MOISTURE CONTENT EXPRESSED IN PPM

DATE	TEMP (C)	PPM	PCT. SATURATION		MOIST./DRY WGT. PCT.	GRADE
09/04/97	38	6	6	AC	0.45	A
12/02/98	34	11	14	AC	1.16	A
12/02/99	25	6	10	AC	0.94	A
02/01/01	21	4	9	AC	0.82	A
03/26/02	10	19	92	UN	6.11	F
01/07/04	10	2	6	AC	0.55	A

%Saturation Classifications (AC,QU,UN) are dependent on voltage class of the equipment and are based on the recommended maximum levels from IEEE Standard C57.106-2002.

FURAN ANALYSIS EXPRESSED IN PPB

DATE	5H2F	2FOL	2FAL	2ACE	5M2F	TOTAL

RECOMMENDATION

CALCULATED DP EST. LIFE REMAINING

GAS-IN-OIL ANALYSIS GAS CHROMATOGRAPHY EXPRESSED IN PPM

DATE	HYDROGEN	OXYGEN	NITROGEN	METHANE	CARBON MONOXIDE	CARBON DIOXIDE	ETHANE	ETHYLENE	ACETYLEN	TOTAL COMBUST.	TOTAL GAS
09/04/97	ND	20,119	67,301	3	138	432	1	7	ND	149	88,001
12/02/98	7	15,944	68,031	5	295	957	1	10	TRACE	318	85,250
12/02/99	2	12,432	79,181	6	515	1,337	1	25	ND	549	93,499
02/01/01	7	8,607	74,528	7	580	1,497	2	23	ND	619	85,251
03/26/02	9	7,295	83,260	8	702	2,182	1	43	ND	763	93,500
01/07/04	9	3,983	83,735	9	707	2,318	2	37	ND	764	90,800

RECOMMENDATION RETEST 1 YEAR

B-THE ANALYSIS OF THIS SAMPLE SHOWS NO SIGNIFICANT INCREASE IN THE COMBUSTIBLE GAS VOLUME.

ICP METALS-IN-OIL EXPRESSED IN PPM

DATE	ALUMINUM	IRON	COPPER

RECOMMENDATION

PCB CONTENT EXPRESSED IN PPM

DATE	1242	1254	1260	OTHER	TOTAL
12/02/98					ND

COLOR LABEL: Green CLASS: NON-PCB

Results in mg/kg
ND means "none detected"
(<2 mg/kg per ATSM D4059)

SDMYERS
THE TRANSFORMER CONSULTANTS

TC# 8

Customer 3756000 OXY VINYLS LP/PASADENA PVC **City** PASADENA, TX **Location** OUTDOOR/GROUND
Sub-Name EXPANSION 7 **Unit No.** TX-10 **Other** **Date Printed** 01/23/04

NAMEPLATE DATA

Manufacturer	COOPER	Equipment Type	TRANSFORMER
Manufacture Date	06/01/96	Transformer Class	OA/FA
Serial No.	966001395	Impedence %	8.47
KVA Rating	5,000	Phase/Cycle	3/60
Primary Voltage	12,470	Liquid Type	OIL
Secondary Voltage	2,400	Gallons	883
Weight	23,925	Other Access	EXPLOSION VENT

ADDITIONAL EQUIPMENT

Radiators	Yes		Conservator Tank	No
Fans	Yes		LTC Compartment	No
Water Cooled	No		Bushing Location	Side Encl.
Oil Pumps	No		Free Breather	No
Top FPV (inch)	1.00	Valve	Hose Length (feet)	40
Bottom FPV (inch)	2.50	Valve	Service Online	Yes
Insulation Type	55/65C		Power Available	Yes

VISUAL INSPECTION

DATE	LEVEL	TEMP	P/V	PAINT	LEAKS
12/02/99	NORMAL	39	1.00	GOOD	NONE
02/01/01	NORMAL	35	0.50	GOOD	NONE
03/26/02	NORMAL	35	0.50	GOOD	NONE
01/07/04	NORMAL	30	0.50	GOOD	NONE

FIELD SERVICE

DATE	SERVICE

Additional Information

Reason Not Tested

LIQUID SCREEN TEST DATA

DATE	SERVICE	ACID	IFT	DIEL 877	DIEL 1816	COLOR	SP. GRAV.	VISUAL	SEDIMENT
09/04/97		0.030 AC	32.6 AC	38 AC		0.75 AC	0.880 AC	CLEAR AC	NONE AC
12/02/98		0.020 AC	33.1 AC	38 AC		1.00 AC	0.890 AC	CLEAR AC	NONE AC
12/02/99		0.020 AC	31.5 QU	37 AC		1.00 AC	0.890 AC	CLEAR AC	NONE AC
02/01/01		0.020 AC	31.1 QU	38 AC		1.00 AC	0.885 AC	CLEAR AC	NONE AC
03/26/02		0.040 AC	32.1 AC	36 AC		1.00 AC	0.880 AC	CLEAR AC	NONE AC
01/07/04		0.030 AC	30.3 QU	49 AC		1.00 AC	0.880 AC	CLEAR AC	NONE AC

INHIBITOR CONTENT

DATE	PCT. BY WEIGHT

LIQUID POWER FACTOR

DATE	25 C	100 C

NOTE: STUDIES SHOW THAT A LEVEL OF.3% INHIBITOR IS OPTIMUM FOR PRESERVATION OF IN-SERVICE TRANSFORMER OILS. OILS WITH A LEVEL BELOW .08% ARE CONSIDERED TO BE UNINHIBITED.

BY ET ABBREVIATIONS, AC ACCEPTABLE, QU QUESTIONABLE, UN UNACCEPTABLE

SDMYERS THE TRANSFORMER CONSULTANTS

TC# 89

Customer	3756000 OXY VINYLS LP/PASADENA PVC	S/N	966001395			Date Printed	01/23/04
Sub-Name	EXPANSION 7	Mfg.	COOPER	Gallons	883	Primary	12,470
Location	OUTDOOR/GROUND	Unit No.	TX-10	KVA	5,000	Secondary	2,400

KARL FISCHER TESTING MOISTURE CONTENT EXPRESSED IN PPM

DATE	TEMP (C)	PPM	PCT. SATURATION	MOIST./DRY WGT. PCT.	GRADE
09/04/97	36	5	5 AC	0.43	A
12/02/98	34	8	10 AC	0.84	A
12/02/99	25	6	9 AC	0.65	A
02/01/01	19	2	5 AC	0.48	A
03/26/02	10	2	7 AC	0.50	A
01/07/04	12	1	3 AC	0.25	A

%Saturation Classifications (AC,QU,UN) are dependent on voltage class of the equipment and are based on the recommended maximum levels from IEEE Standard C57.106-2002.

FURAN ANALYSIS EXPRESSED IN PPB

DATE	5H2F	2FOL	2FAL	2ACF	5M2F	TOTAL

RECOMMENDATION

CALCULATED DP **EST. LIFE REMAINING**

GAS-IN-OIL ANALYSIS GAS CHROMATOGRAPHY EXPRESSED IN PPM

DATE	HYDROGEN	OXYGEN	NITROGEN	METHANE	CARBON MONOXIDE	CARBON DIOXIDE	ETHANE	ETHYLENE	ACETYLEN	TOTAL COMBUST.	TOTAL GAS
09/04/97	8	14,235	73,039	3	128	585	ND	1	ND	140	87,999
12/02/98	10	11,048	69,900	5	253	1,279	1	4	ND	273	82,500
12/02/99	9	10,746	75,710	5	322	1,197	1	9	ND	346	87,999
02/01/01	8	9,240	68,907	5	345	1,242	1	2	ND	361	79,750
03/26/02	10	10,102	81,210	6	436	1,725	1	8	ND	461	93,498
01/07/04	11	7,003	73,248	7	461	1,766	TRACE	3	ND	482	82,499

RECOMMENDATION RETEST 1 YEAR

B-THE ANALYSIS OF THIS SAMPLE SHOWS NO SIGNIFICANT INCREASE IN THE COMBUSTIBLE GAS VOLUME.

ICP METALS-IN-OIL EXPRESSED IN PPM

DATE	ALUMINUM	IRON	COPPER

RECOMMENDATION

PCB CONTENT EXPRESSED IN PPM

DATE	1242	1254	1260	OTHER	TOTAL
12/02/98					ND

COLOR LABEL: Green **CLASS:** NON-PCB

Results in mg/kg
ND means "none detected"
(<2 mg/kg per ATSM D4059)

2824
Cameron Controls

EPAHO106001971

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/12/2008**

Dear **Glen Tyler**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2824

Expiration Date 6/12/2010

Generator: Cameron Controls
Address: 67650 Bingle
Houston, TX 77092

Waste Information

Name of Waste: Oily water
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Oil from machinery and equipment
Color: dark **Odor:** hydrocarbon **pH:** 3-11
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

JH

the profile paperwork is OK but a signature is missing.

JB

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmentalcom
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company : Cameron Controls
Address : 6765a Bingle
City, State, Zip : Houston, TX 7709n
Contact : Glen Tyler Title :
Phone No : 281-722-5172 Fax :
24 / HR Phone :
U.S EPA I.D No : N/A
State I.D : na SIC Code na

SECTION 2: Billing Information

Company : Vertex Recovery, LP
Address : 200 Atlantic Pipeline Road 200 Atlantic Pipeline Road
City, State, Zip : Baytown TX 77520
Contact : Baily Kirk Title :
Phone No : (225) 806-2682 Fax : (281) 596-4409

SECTION 3: General Description of the Waste

Name of Waste : Oily water

Detailed Description of the Process Generating Waste:
Oily water from daily operations. Oil from machinery and equipment.

Physical State : ☑ Liquid ☐ Sludge ☐ Powder
☐ Solid ☐ Filter Cake ☐ Combination

Color : dark Odor : hydrocarbon
Specific Gravity (Water=1) : 1 Density : 8.34 lbs / gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No
Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No
Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☒ No

2812 2813 2816 2819 2821 2822 2823 2824 2833 2834 2835 2836 2841 2842 2843 2844 2851
2861 2865 2869 2873 2874 2876 2879 2891 2892 2893 2896 2899 2911 3312 4953 4959 9511

Layers : ☒ Single-Phas ☑ Multi-Phase
Container Type : ☒ Drum ☐ Tote ☑ Truck ☐ Other (explain)
Container Size : 5000
Number Of Units : 2

Is this a USEPA "Hazardous Waste" per 40 CFR 261.3? ☐ Yes ☐ No
If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto
If "Yes", is it: ☐ D001 ☐ D002 ☐ D003

EPAHO106001973

☐ D008 ☐ D009 ☐ D010 ☐ D011

Characteristics for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☐ No

If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☐ No

If "Yes", then please list ALL applicable codes:

Texas State Waste Code No : Recycle

Proper U.S. State Waste Code No : Recyclable hydrocarbon and water mixture

Class : na UN/NA : na PG : na RQ : na

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>150	3-11	na mg/l	na mg/l	0-1 %
Oil and Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
na mg/l	na mg/l	na mg/l	na mg/l	na mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
water	95-99	%
oil	1-5	%
dirt/sand	0-.5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

none std

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.

none

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):

~~none known~~ oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generators knowledge

TCLP Metals : x

TCLP Volatiles : x

TCLP Semi-Volatiles : x

Reactivity : x

EPAHO106001974

Corrosivity : X

Ignitability : X

SECTION 9: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge ? ☑ YES ☑ NO

If 'YES', complete this section

PLEASE CHECK THE APPROPRIATE BOX: IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE

Metals Subcategory: ***Subpart A***

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phospha
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: ***Subpart B***

- ☐ Used oils
- ☑ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation wastes
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory ***Subpart C***

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bering wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesive and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations

EPAHO106001975

☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcatego

☑ Oils Subcatego

☐ Organics Subcategory

SECTION 10: Additional Instruction

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby cerity that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature : Carrie Reese **Date :** 6/12/08

Printed Name / Title : Carrie Reese - Business Development Mgr.

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer : [signature]

Approved Rejected

Date : 6-12-08 **Status :**

Approval Number : 2824

Process Facility Information :

Charge $0.10/gal (TOC less than 5000 + solids >2%). For high TOC water (more than 150000), terminate manifest at CES and redirect to Newpark. charge $0.30/gal for high TOC water. Fill out inbound load report/surcharge report for high TOC loads!!!

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$.10/gal

2. Contamination Limit (maximum limit before surchages apply):

TOC 5000

Solids ~~≤~~ <2%

3. Surcharge Pricing:

Charge $.30/gal for High TOC Water

4. Special Testing Requirements:

Run pH, TOC phenolics, Zinc, Nickel

5. Treatment and Handling Protocol:

TOC >150 000 Process to System 1

Fill out inbound report/Surcharge for High TOC Costs

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable)

2825
Aftin chem @ Delta

EPAHO106001979

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **6/13/2008**

Dear **Ed Cox**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2825

Expiration Date 6/12/2010

Producer: Afton Chemical Corporation @ Delta Chemical
Address: 334 Tidal Road
Deer Park, TX 77536

Material / Product Information

Name of Material / Product Afton Fuel Additive - eval ash
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Unused product
Color: light amber **Odor:** amine like **pH:** 2-12
Physical State:
Incompatibilities: strong oxidizing and reducing agents
Safety Related Data/Special Handling:
use chemical resistant gloves, suit, boots, safety goggles

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP
Reviewed. Paperwork is OK. There is not a generators' signature.

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
GP
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Material Producer Information

Company:	Afton Chemical Corporation @ Delta Chemical		
Address:	334 Tidal Road		
City, State, Zip:	Deer Park, TX 77536		
Contact:	Tim Menard	**Title:**	
Phone No:	281-680-4113	**Fax No:**	281-479-9842
24/hr Phone:	713-819-3172		
U.S. EPA I.D. No:			
State I.D.		**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above

Company:	Afton Chemical Corporation		
Address:	501 Monsanto Ave		
City, State, Zip:	Suget, Illinois 62201		
Contact:	Ed Cox	**Title:**	
Phone No:	1.618-583-1078	**Fax No:**	618-583-1388

SECTION 3: General Description of the Material / Product

Name of Material / Product: Afton Fuel additive - eval ash
Detailed Description of Process Generating or Producing the Material / Product: Unused product

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Light Amber **Odor:** Amine-like

Specific Gravity (water=1): .9 **Density:** 7.5 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type:	☒	**Drum**	☐ **Tote**	☐ **Truck**	☐	**Other (explain)**	
Container Size:		55 gal	____	____		____	

Frequency: ☐ Weekly ☐ Monthly ☒ Quarterly ☐ Yearly
Number of Units (containers): ____ **Other:** ____

Proper U.S. DOT Shipping Name: Product Combustible Liquids, n.o.s., (sulfurized olefins), PG III

Class: 3 **UN/NA:** NA 1993 **PG:** III **RQ:** 100

EPAHO106001981

Flash Point >140	**pH** 2-12	**N/A**	N/A	**Solids** 0%
Oil&Grease 100mg/l	**TOC** 0mg/l	**Zinc** 0mg/l	**Copper** 0mg/l	**Nickel** 0mg/l

SECTION 4: Physical and Chemical Data

COMPONENT/STABLE	Concentration	Units
The material / product consists of the following materials	**Ranges are acceptable**	**or %**
Hitec Fuel additive	100%	%
		%
		%
		%
		%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
use chemical resistant gloves, suit and boots, as well as safety goggles

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Strong oxidizing and reducing agents

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: N/A **Date:** 6-12-08

Printed Name/Title: no signature required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: [signature]	
Date: 6-12-08 Approved Rejected	
Approval Number: 2825	

EPAHO106001982

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

Pay $.15/gal. no trans charges

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001983

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

evaluate each product type shipped in this profile group for ash and record results (to eliminate such extensive testing for future loads). ~~Catch a sample~~ Record the sample information in the product book (product type also - name on MSDS) and run the ash. Report this to Gary Petersen.

8. **Management for Product Recovered/Recycled (if applicable):**

Meet with Joy with ash results to determine whether to blend product or ship with CES Fuels to Energis . Catch a sample from the drums for each Product type. Label & bring to the lab for ash testing.

EPAHO106001984

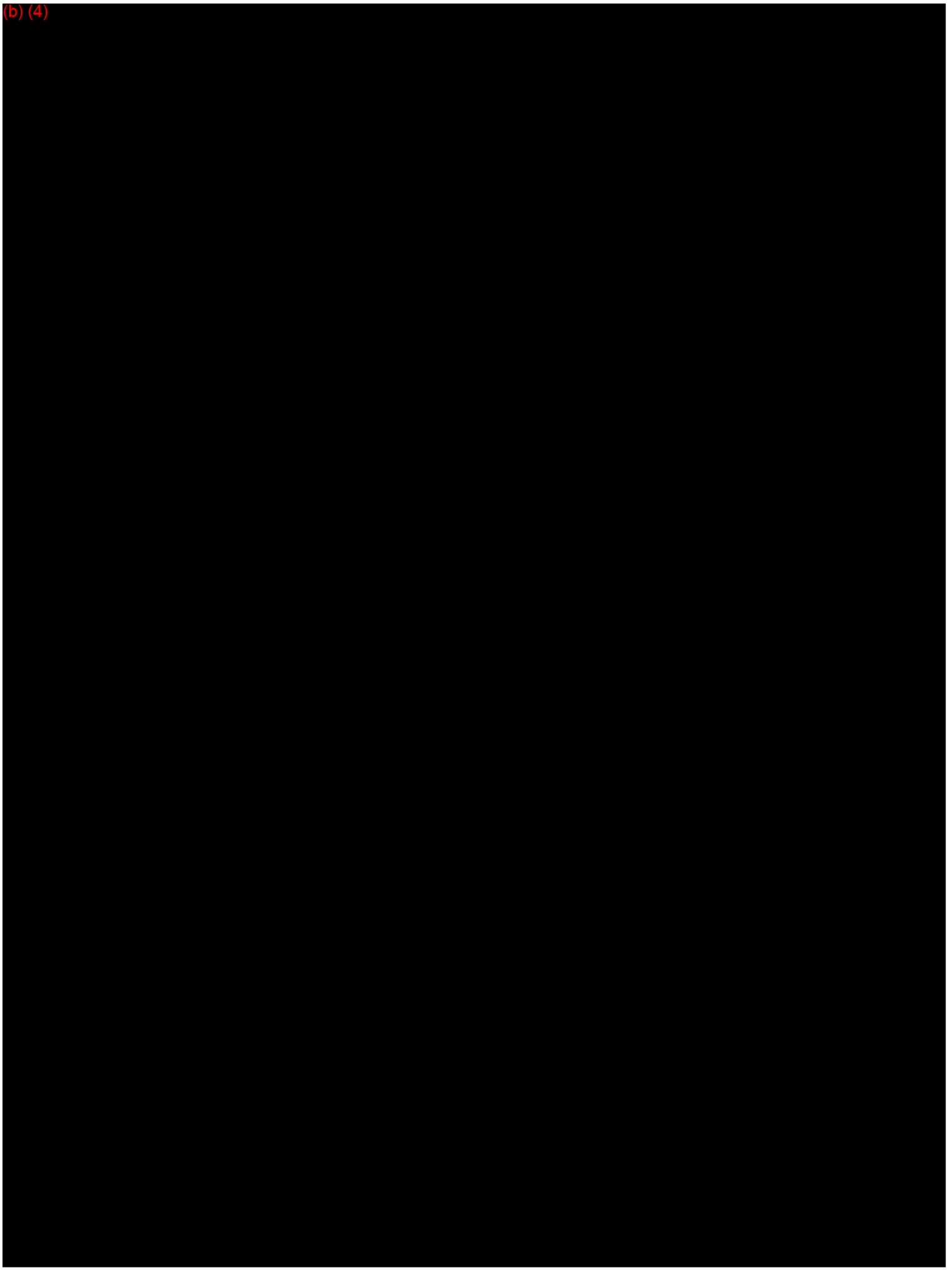
Afton®

Material Safety Data Sheet

(b) (4)

[redacted]

(b) (4)



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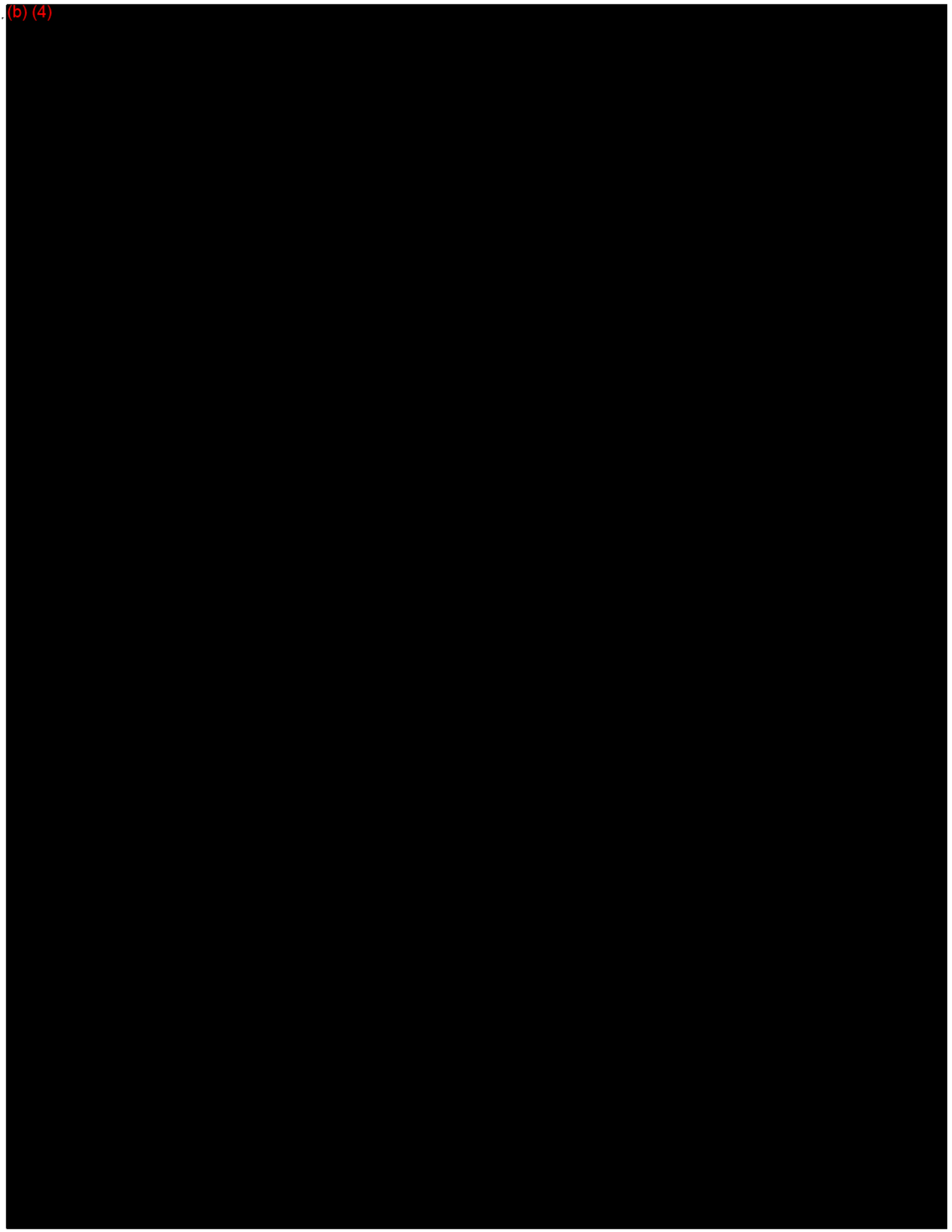

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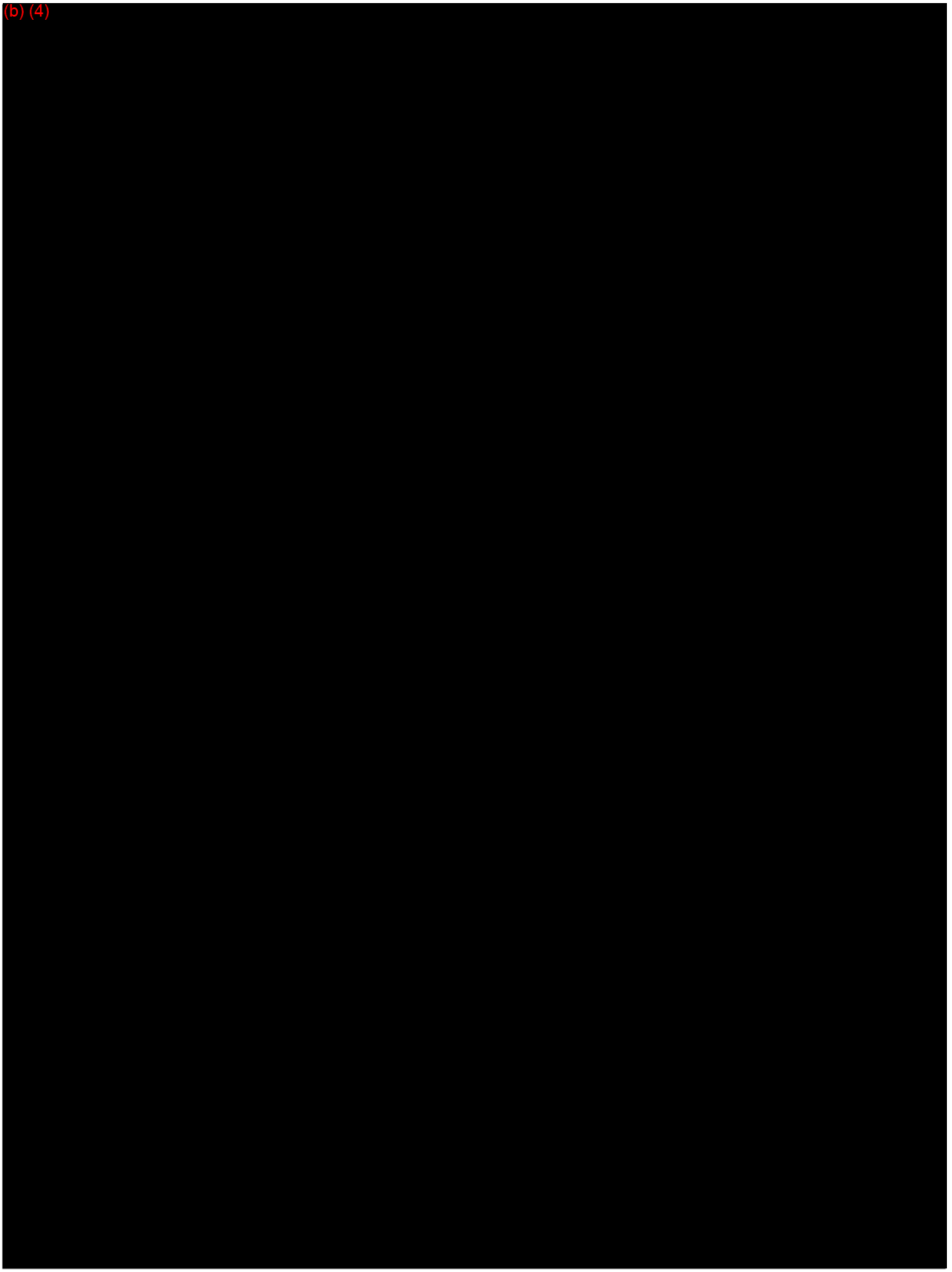

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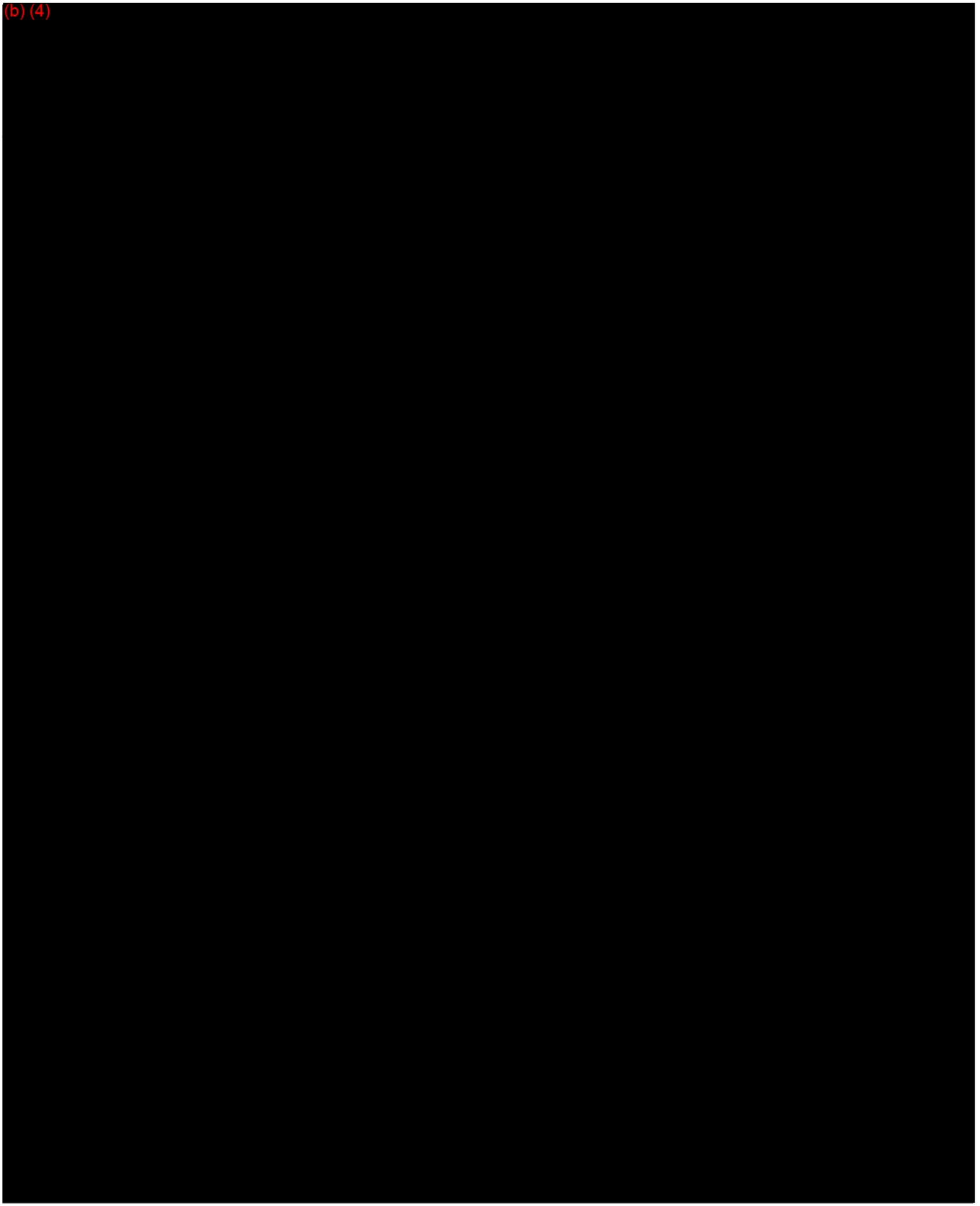


(b) (4)

[redacted]

*** END OF MSDS ***

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Joy Baker
Cc: Gary Lenertz, Gary Peterson, Bo Cumberland

Date: 04/01/08

From: Miles Root

Lab Memo: 08-052

Subject: **Afton Chemical Evaluations 0308-121 – 125**

Samples of viscosity improvers from Afton Chemical have been tested for compatibility with our black oil and light ends. Ash analyses have also been determined on two of the samples by an outside lab. All of the materials were compatible with the requested testing with either light ends or black oil. The HiTEC 9227 has a very high ash at 13.1 wt%. This entire spectrum of material is available in a lot of approximately 1000 drums that are partially filled with the various evaluation materials. All of the samples look clean and since they are in drums are able to be blended as needed to reduce the high ash content in the one stream. A summary of the test results is below.

Afton Chemicals Evals 0308-121 thru 125			
Eval #	Sample ID	Compatibility	Ash, wt%
0308-121	HiTEC 9227	Black Oil	13.1
0308-122	HiTEC 343	Black Oil	1.7
0308-123	HiTEC 5777	Light Ends	
0308-124	HiTEC 6560	Black Oil	
0308-125	HiTEC 5710A	Light Ends	

2826
Aftm Chem @ Delta

EPAHO106001992

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **6/13/2008**

Dear **Ed Cox**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2826

Expiration Date 6/12/2010

Producer: Afton Chemical Corporation @ Delta Chemical
Address: 334 Tidal Road
Deer Park, TX 77536

Material / Product Information

Name of Material / Product Afton fuel additive - high ash
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
unused product
Color: light amber **Odor:** amine like **pH:** 2-12
Physical State:
Incompatibilities: strong oxidizing and reducing agents
Safety Related Data/Special Handling:
use chemical resistant gloves, suit and boots, safety goggles

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP
Reviewed. Paperwork is OK. There is note generators Signature.

Ash = 13.7%
Low viscosity.

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

GB

SECTION 1: Material Producer Information

Company:	Afton Chemical Corporation @ Delta Chemical		
Address:	334 Tidal Road		
City, State, Zip:	Deer Park, TX 77536		
Contact:	Tim Menard	**Title:**	
Phone No:	281-680-4113	**Fax No:**	281-479-9842
24/hr Phone:	713-819-3172		
U.S. EPA I.D. No:			
State I.D.		**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above

Company:	Afton Chemical Corporation		
Address:	501 Monsanto Ave		
City, State, Zip:	Suget, Illinois 62201		
Contact:	Ed Cox	**Title:**	
Phone No:	1.618-583-1078	**Fax No:**	618-583-1388

SECTION 3: General Description of the Material / Product

Name of Material / Product: Afton Fuel additive - high ash
Detailed Description of Process Generating or Producing the Material / Product: Unused product

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Light Amber **Odor:** Amine-like

Specific Gravity (water=1): 1 **Density:** 8.34 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☒ Drum ☐ Tote ☐ Truck ☐ Other (explain)
Container Size: 55 gal

Frequency: ☐ Weekly ☐ Monthly ☒ Quarterly ☐ Yearly
Number of Units (containers): ____ **Other:** ____

Proper U.S. DOT Shipping Name: Product Non RCRA/Non DOT Regulated Material

Class: NA **UN/NA:** NA **PG:** NA **RQ:** NA

EPAHO106001994

Flash Point	pH	N/A	N/A	Solids
>200	2-12			0%
Oil&Grease	**TOC**	**Zinc**	**Copper**	**Nickel**
100mg/l	0mg/l	0mg/l	0mg/l	0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	Concentration	Units
The material / product consists of the following materials	**Ranges are acceptable**	**or %**
Hitec Fuel additive	100%	%
		%
		%
		%
		%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
use chemical resistant gloves, suit and boots, as well as safety goggles

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Strong oxidizing and reducing agents

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: n/a **Date:** 6-12-08

Printed Name/Title: no signature required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Technical Manager: [signature]

Date: 6-12-08 Approved Rejected

Approval Number: 2826

EPAHO106001995

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

Pay $.15/gal. no trans charges

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106001996

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

Retain Representative sample

8. **Management for Product Recovered/Recycled (if applicable):**

Segregate drums, bulk drums and send to Energis as CES NH Fuels. At low volumes (about 8 drums per load) this material can process with black oil.

EPAHO106001997

Few 100

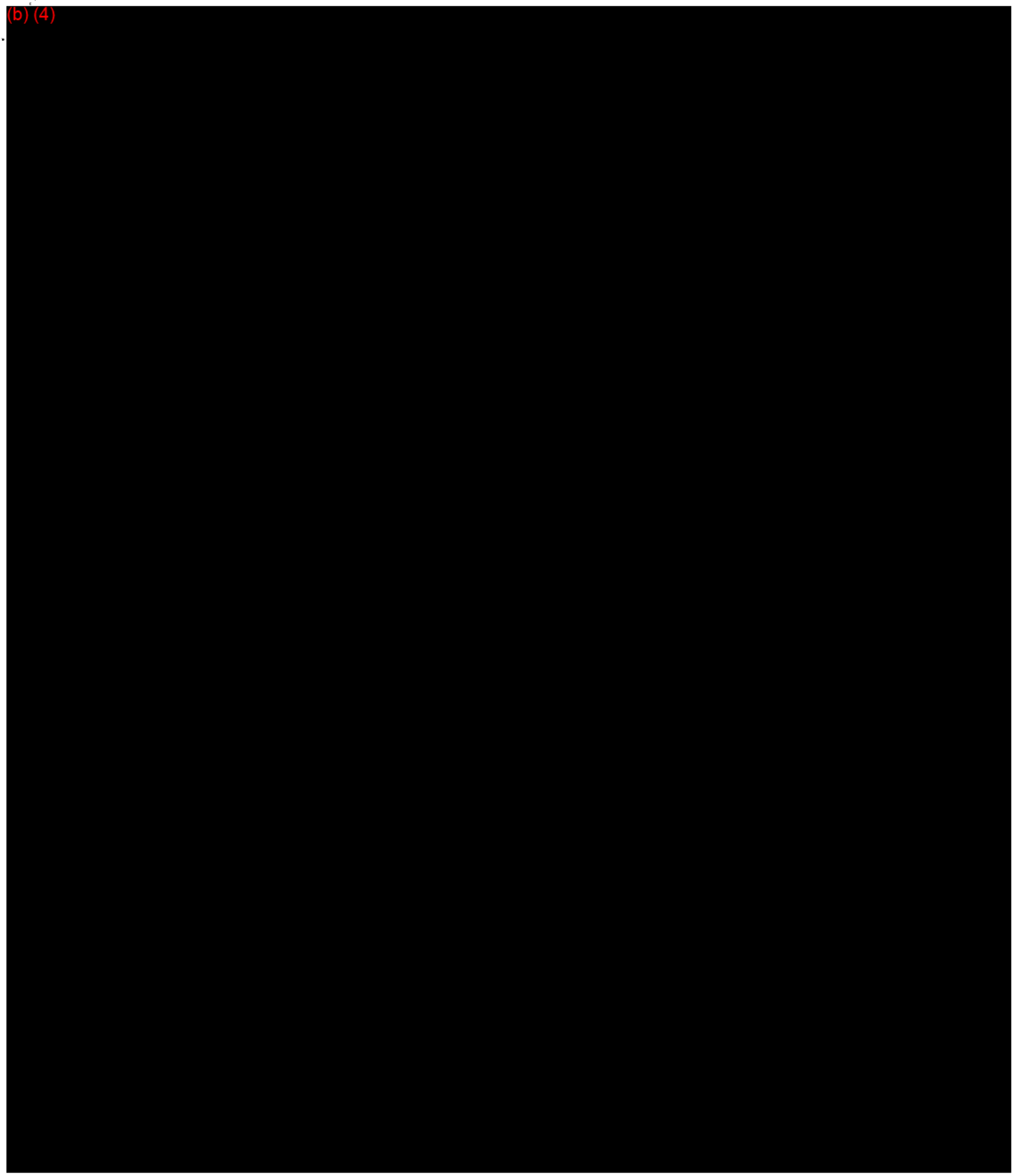
Afton™

Material
Safety Data Sheet

(b) (4)

[redacted]

(b) (4)



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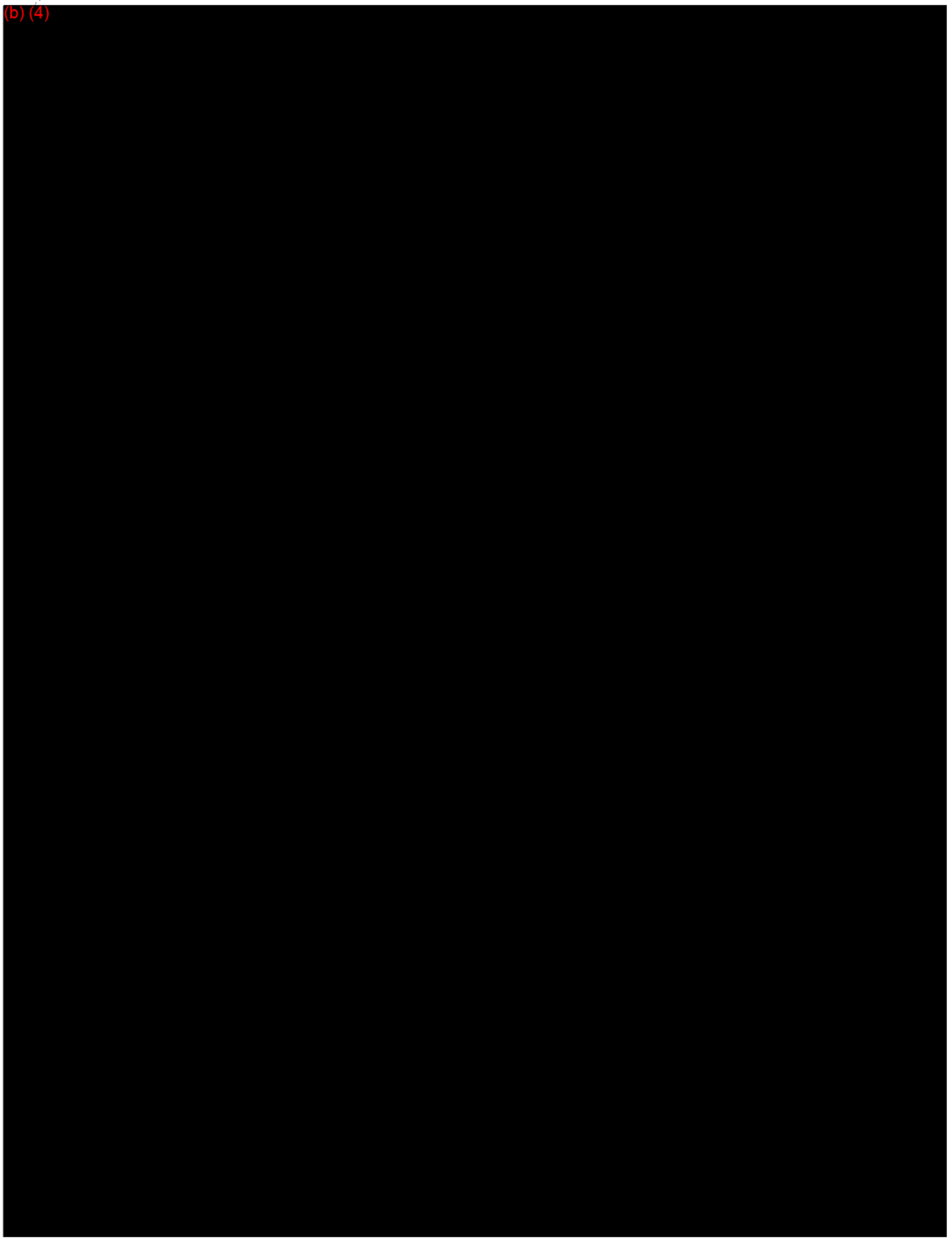

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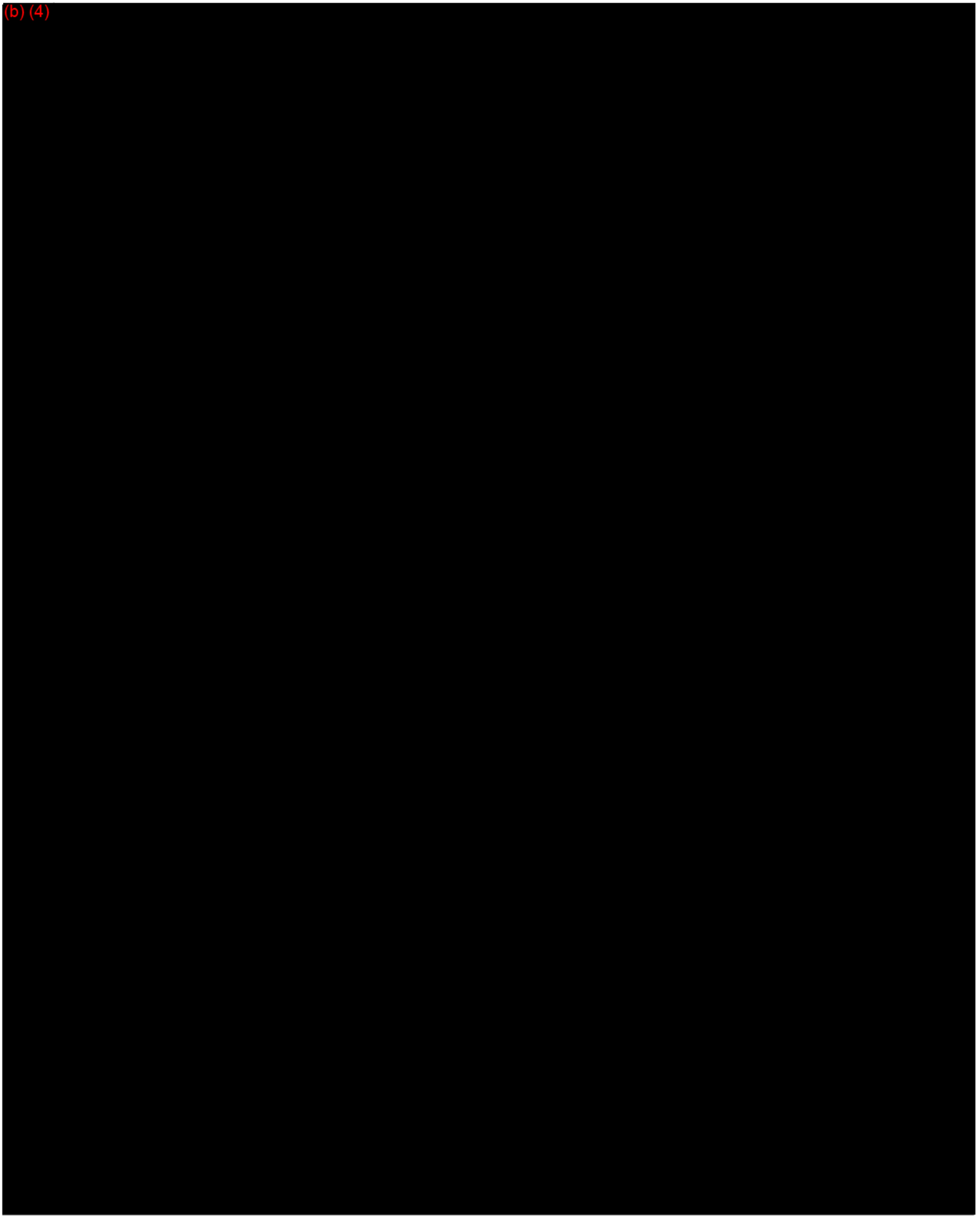


(b) (4)

[redacted]

*** END OF MSDS ***

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Joy Baker
Cc: Gary Lenertz, Gary Peterson, Bo Cumberland

Date: 04/01/08

From: Miles Root

Lab Memo: 08-052

Subject: **Afton Chemical Evaluations 0308-121 – 125**

Samples of viscosity improvers from Afton Chemical have been tested for compatibility with our black oil and light ends. Ash analyses have also been determined on two of the samples by an outside lab. All of the materials were compatible with the requested testing with either light ends or black oil. The HiTEC 9227 has a very high ash at 13.1 wt%. This entire spectrum of material is available in a lot of approximately 1000 drums that are partially filled with the various evaluation materials. All of the samples look clean and since they are in drums are able to be blended as needed to reduce the high ash content in the one stream. A summary of the test results is below.

Afton Chemicals Evals 0308-121 thru 125			
Eval #	Sample ID	Compatibility	Ash, wt%
0308-121	HiTEC 9227	Black Oil	13.1
0308-122	HiTEC 343	Black Oil	1.7
0308-123	HiTEC 5777	Light Ends	
0308-124	HiTEC 6560	Black Oil	
0308-125	HiTEC 5710A	Light Ends	

2827
Afton Chemical Corp @ Dette chem

EPAHO106002004

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **6/13/2008**

Dear **Ed Cox**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2827

Expiration Date 6/12/2010

Producer: Afton Chemical Corporation @ Delta Chemical
Address: 334 Tidal Road
Deer Park, TX 77536

Material / Product Information

Name of Material / Product Afton VI Improver - clay based
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
unused product

Color: light amber **Odor:** amine like **pH:** 2-12
Physical State:
Incompatibilities: oxidizing agents, reducing agents
Safety Related Data/Special Handling:
use chemical resistant gloves, suit and boots, safety goggles

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

ERP

High viscosity organic. Processing must be approved by operations manager for [redacted] oil processing. Paperwork is OK – there is not a generators signature.

Viscous 23,000

FB

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Material Producer Information

Company:	Afton Chemical Corporation @ Delta Chemical		
Address:	334 Tidal Road		
City, State, Zip:	Deer Park, TX 77536		
Contact:	Tim Menard	**Title:**	
Phone No:	281-680-4113	**Fax No:**	281-479-9842
24/hr Phone:	713-819-3172		
U.S. EPA I.D. No:			
State I.D.		**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above

Company:	Afton Chemical Corporation		
Address:	501 Monsanto Ave		
City, State, Zip:	Suget, Illinois 62201		
Contact:	Ed Cox	**Title:**	
Phone No:	1.618-583-1078	**Fax No:**	618-583-1388

SECTION 3: General Description of the Material / Product

Name of Material / Product: Afton VI Improver - Clay Based
Detailed Description of Process Generating or Producing the Material / Product: Unused product

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: Light Amber **Odor:** Amine-like

Specific Gravity (water=1): 0.9 **Density:** 7.5 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☒ **Single-phase** ☐ **Multi-phase**

Container Type:	☒	**Drum**	☐ **Tote**	☐	**Truck**	☐	**Other (explain)**
Container Size:		55 gal					

Frequency: ☐ **Weekly** ☐ **Monthly** ☒ **Quarterly** ☐ **Yearly**
Number of Units (containers): _____ **Other:** _____

Proper U.S. DOT Shipping Name: Product Non RCRA/Non DOT Regulated Material

Class: NA **UN/NA:** NA **PG:** NA **RQ:** NA

EPAHO106002006

Flash Point	pH	N/A	N/A	Solids
>200	2-12			0%

Oil&Grease	TOC	Zinc	Copper	Nickel
100mg/l	0mg/l	0mg/l	0mg/l	0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	Concentration	Units
The material / product consists of the following materials	**Ranges are acceptable**	**or %**
Hitec Viscosity Improver - Clay based	100%	%
		%
		%
		%
		%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
use chemical resistant gloves, suit and boots, as well as safety goggles

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Strong oxidizing and reducing agents

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: n/a **Date:** 6-12-08

Printed Name/Title: no signature required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: [signature]	
Date: 6-12-08 Approved Rejected	
Approval Number: 2827	

EPAHO106002007

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

Pay $.15/gal. no trans charges

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106002008

7. **Tests for Product Recovered/Recycled (if applicable):**

Check for blending compatibility with other line of viscosity improver from Afton. They recommended that we not blend the 2 lines of viscosity modifiers.

8. **Management for Product Recovered/Recycled (if applicable):**

Product cannot be sold as viscosity modifier per generator. Must blend with LIGHT ENDS. Do not blend with polymer-based viscosity improver from Afton if blending test gives negative results. The drums should be deheaded and bulked in ISO container or tank. Scrape drums after bulking to remove product completely before shredding drums.

Afton®

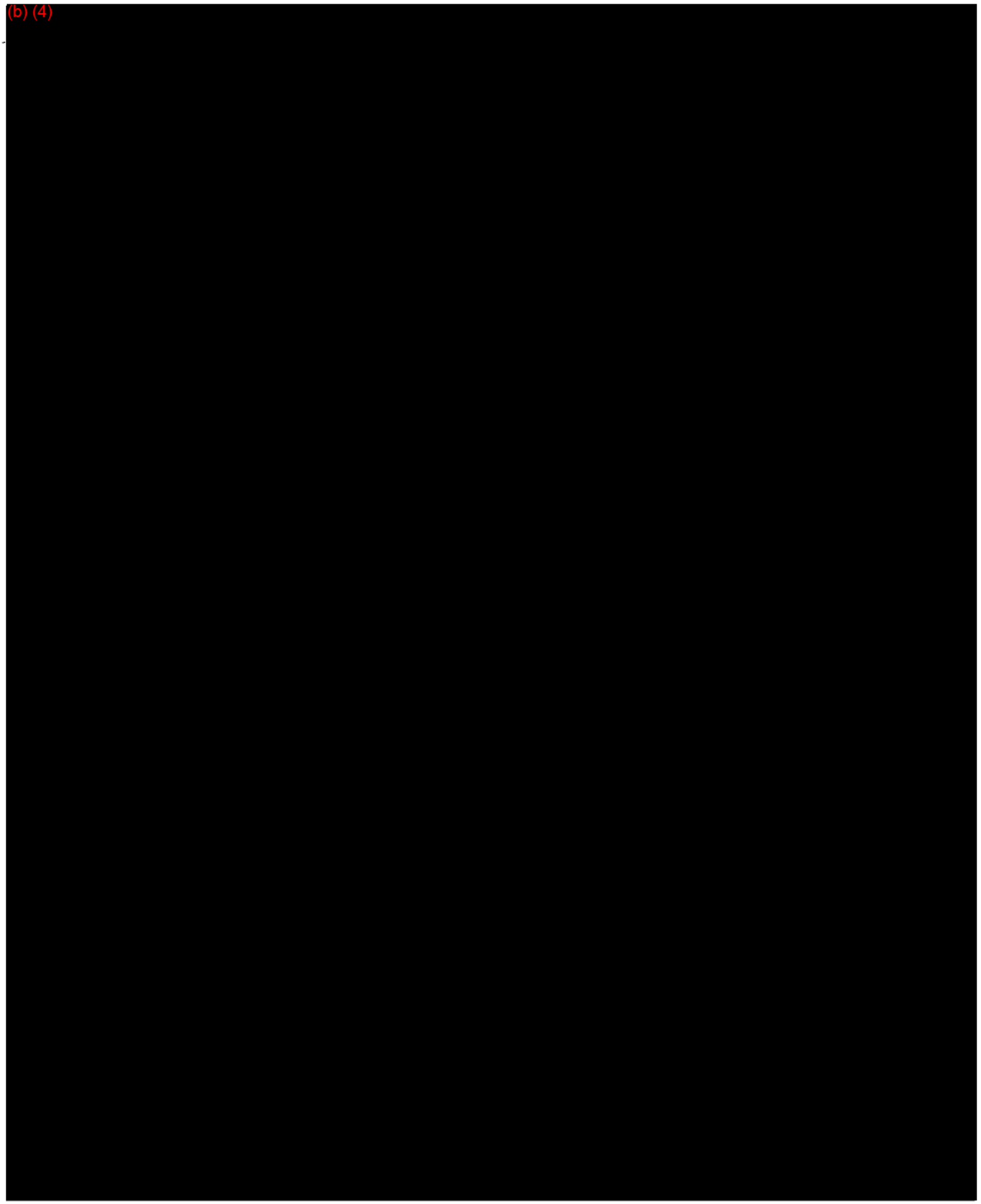
Material Safety Data Sheet

(b) (4)

[redacted]

(b) (4)

(b) (4)



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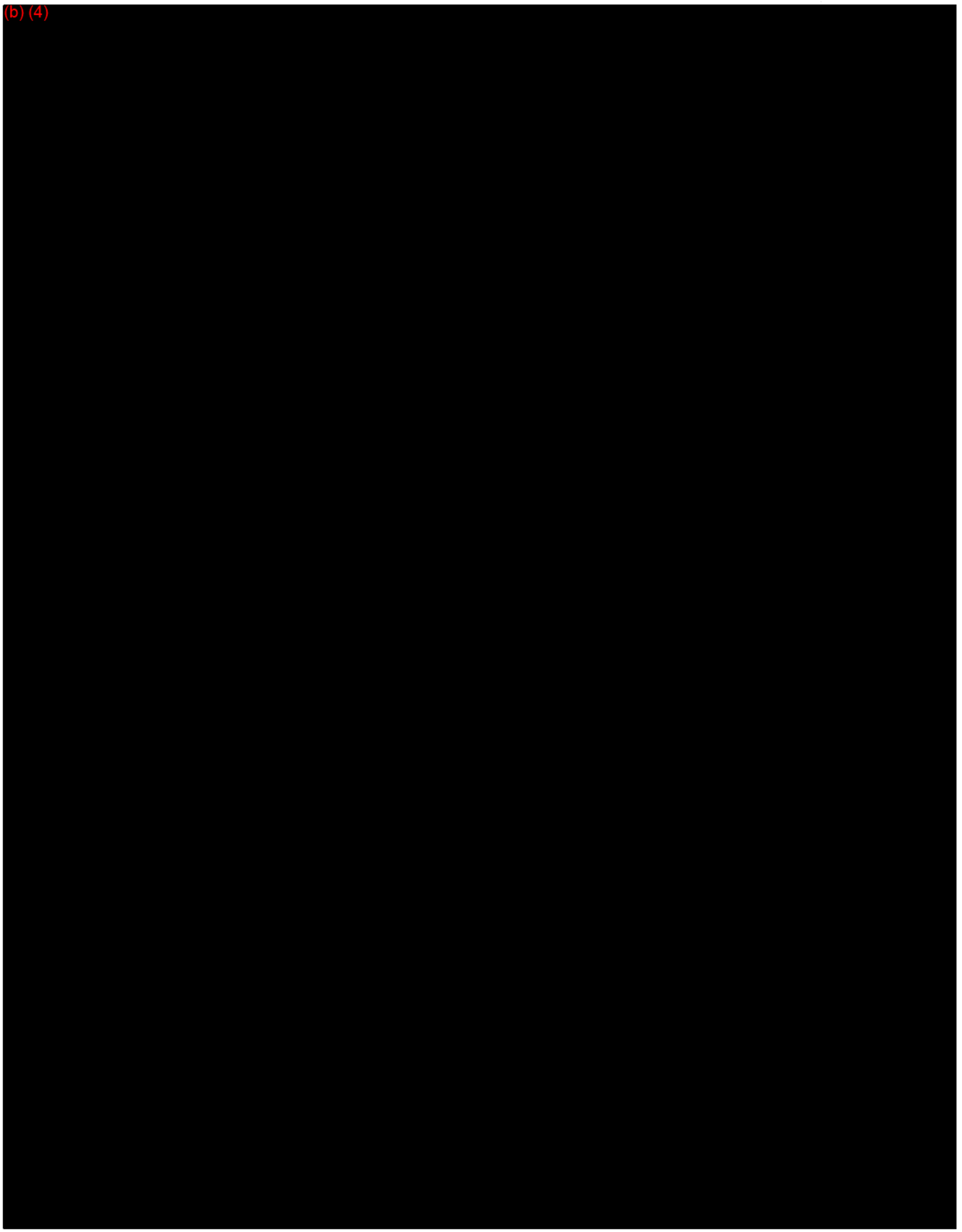

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*** END OF MSDS ***

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Joy Baker
Cc: Gary Lenertz, Gary Peterson, Bo Cumberland

Date: 04/01/08

From: Miles Root

Lab Memo: 08-052

Subject: **Afton Chemical Evaluations 0308-121 – 125**

Samples of viscosity improvers from Afton Chemical have been tested for compatibility with our black oil and light ends. Ash analyses have also been determined on two of the samples by an outside lab. All of the materials were compatible with the requested testing with either light ends or black oil. The HiTEC 9227 has a very high ash at 13.1 wt%. This entire spectrum of material is available in a lot of approximately 1000 drums that are partially filled with the various evaluation materials. All of the samples look clean and since they are in drums are able to be blended as needed to reduce the high ash content in the one stream. A summary of the test results is below.

Afton Chemicals Evals 0308-121 thru 125			
Eval #	Sample ID	Compatibility	Ash, wt%
0308-121	HiTEC 9227	Black Oil	13.1
0308-122	HiTEC 343	Black Oil	1.7
0308-123	HiTEC 5777	Light Ends	
0308-124	HiTEC 6560	Black Oil	
0308-125	HiTEC 5710A	Light Ends	

2828

Afton Chem @ Delta

EPAHO106002016

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **6/13/2008**

Dear **Ed Cox**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2828

Expiration Date 6/12/2010

Producer: Afton Chemical Corporation @ Delta Chemical
Address: 334 Tidal Road
Deer Park, TX 77536

Material / Product Information

Name of Material / Product Afton fuel additive
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Unused product

Color: light amber **Odor:** amine like **pH:** 2-14
Physical State:
Incompatibilities: strong oxidizing and reducing agents
Safety Related Data/Special Handling:
use chemical gloves, suit and boots, safety goggles

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP reviewed. Paperwork is OK. There is not a signature by the generator.

Low flash
Low viscosity

GP

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Material Producer Information

Company:	Afton Chemical Corporation @ Delta Chemical		
Address:	334 Tidal Road		
City, State, Zip:	Deer Park, TX 77536		
Contact:	Tim Menard	**Title:**	
Phone No:	281-680-4113	**Fax No:**	281-479-9842
24/hr Phone:	713-819-3172		
U.S. EPA I.D. No:			
State I.D.		**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above

Company:	Afton Chemical Corporation		
Address:	501 Monsanto Ave		
City, State, Zip:	Suget, Illinois 62201		
Contact:	Ed Cox	**Title:**	
Phone No:	1.618-583-1078	**Fax No:**	618-583-1388

SECTION 3: General Description of the Material / Product

Name of Material / Product: Afton Fuel additive
Detailed Description of Process Generating or Producing the Material / Product: Unused product

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: Light Amber **Odor:** Amine-like

Specific Gravity (water=1): .9 **Density:** 7.5 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☒ **Single-phase** ☐ **Multi-phase**

Container Type: ☒ **Drum** ☐ **Tote** ☐ **Truck** ☐ **Other (explain)**
Container Size: 55 gal

Frequency: ☐ **Weekly** ☐ **Monthly** ☒ **Quarterly** ☐ **Yearly**
Number of Units (containers): ____ **Other:** ____

Proper U.S. DOT Shipping Name: RQ, NA 1993, Combustible Liquids, n.o.s., (xylene, petroleum distillates) 3, PG III

Class: 3 **UN/NA:** 1993 **PG:** III **RQ:** 100

EPAHO106002018

Flash Point <140	**pH** 2-12	**N/A**	N/A	**Solids** 0%
Oil&Grease 100mg/l	**TOC** 0mg/l	**Zinc** 0mg/l	**Copper** 0mg/l	**Nickel** 0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	Concentration	Units
The material / product consists of the following materials	**Ranges are acceptable**	**or %**
Hitec Fuel additive	100%	%
		%
		%
		%
		%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
use chemical resistant gloves, suit and boots, as well as safety goggles

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Strong oxidizing and reducing agents

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: n/a **Date:** 6-12-08

Printed Name/Title: no signature required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: Rebecca Langa Date: 6-12-08 Approved Rejected Approval Number: 2828	

EPAHO106002019

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

Pay $.15/gal. no trans charges

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106002020

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

8. **Management for Product Recovered/Recycled (if applicable):**

Blend with Black oil. Product cannot be sold as-is without blending per generator. this material can also blend with light ends.

EPAHO106002021

Afton®

Material Safety Data Sheet

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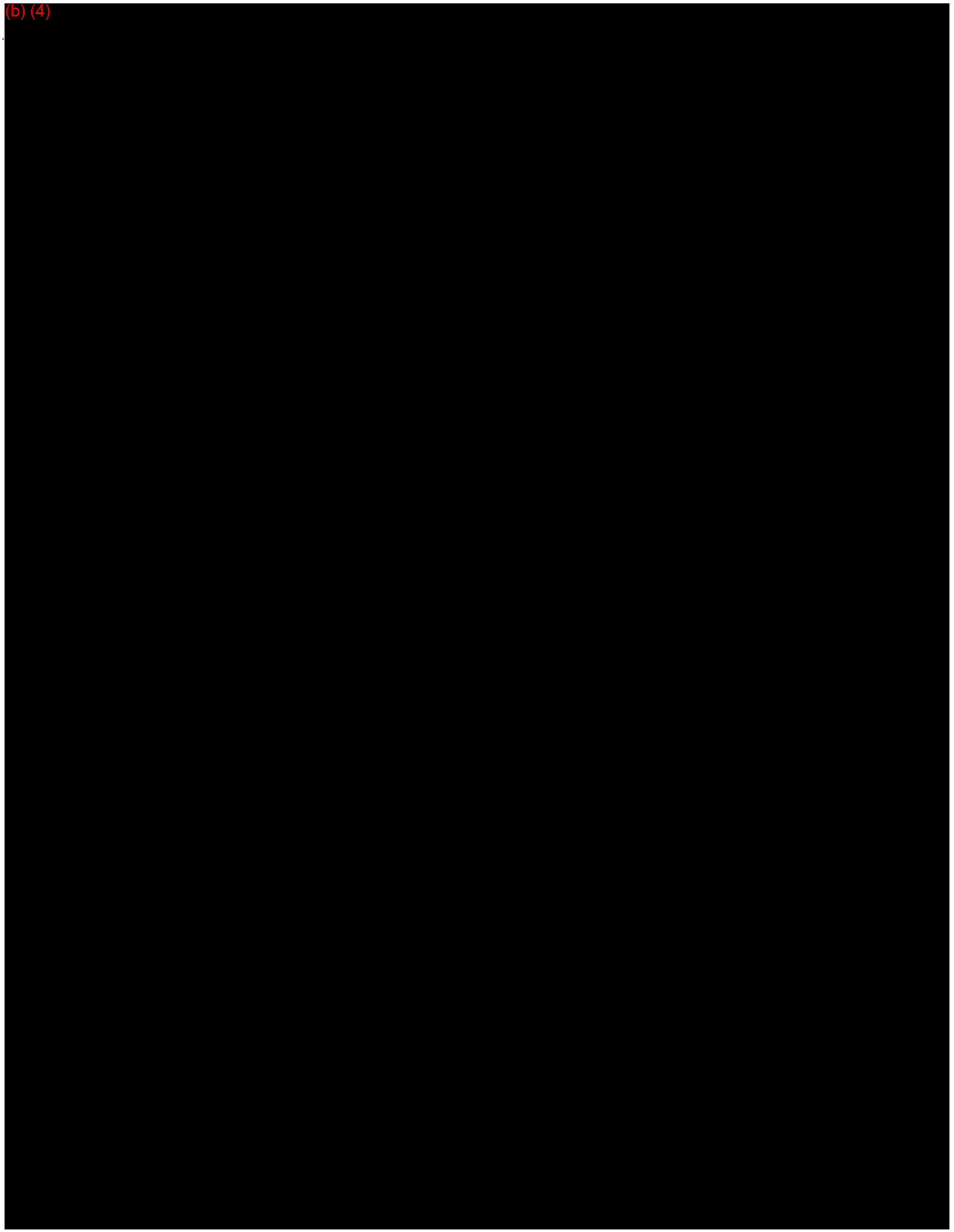
[redacted]

(b) (4)



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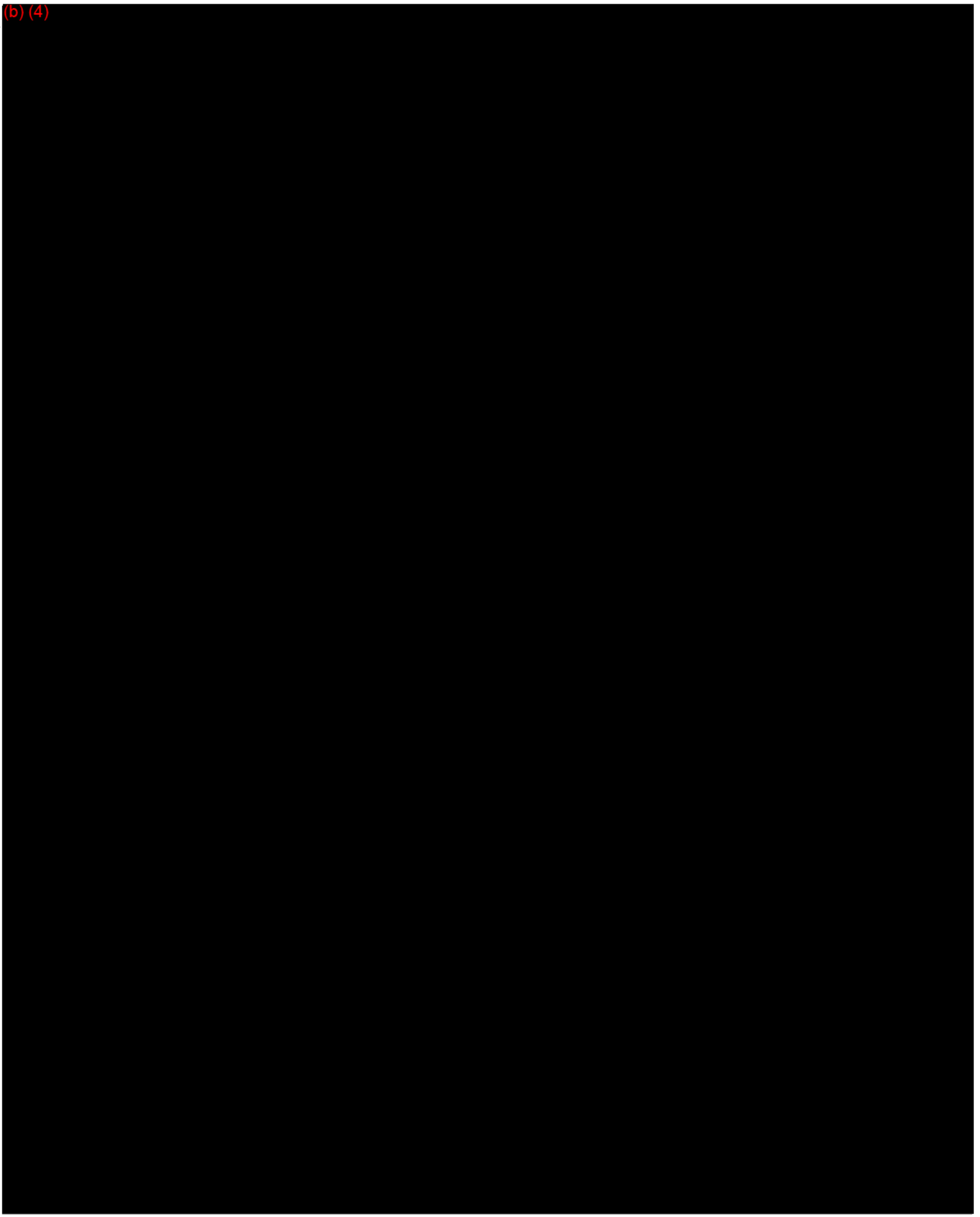

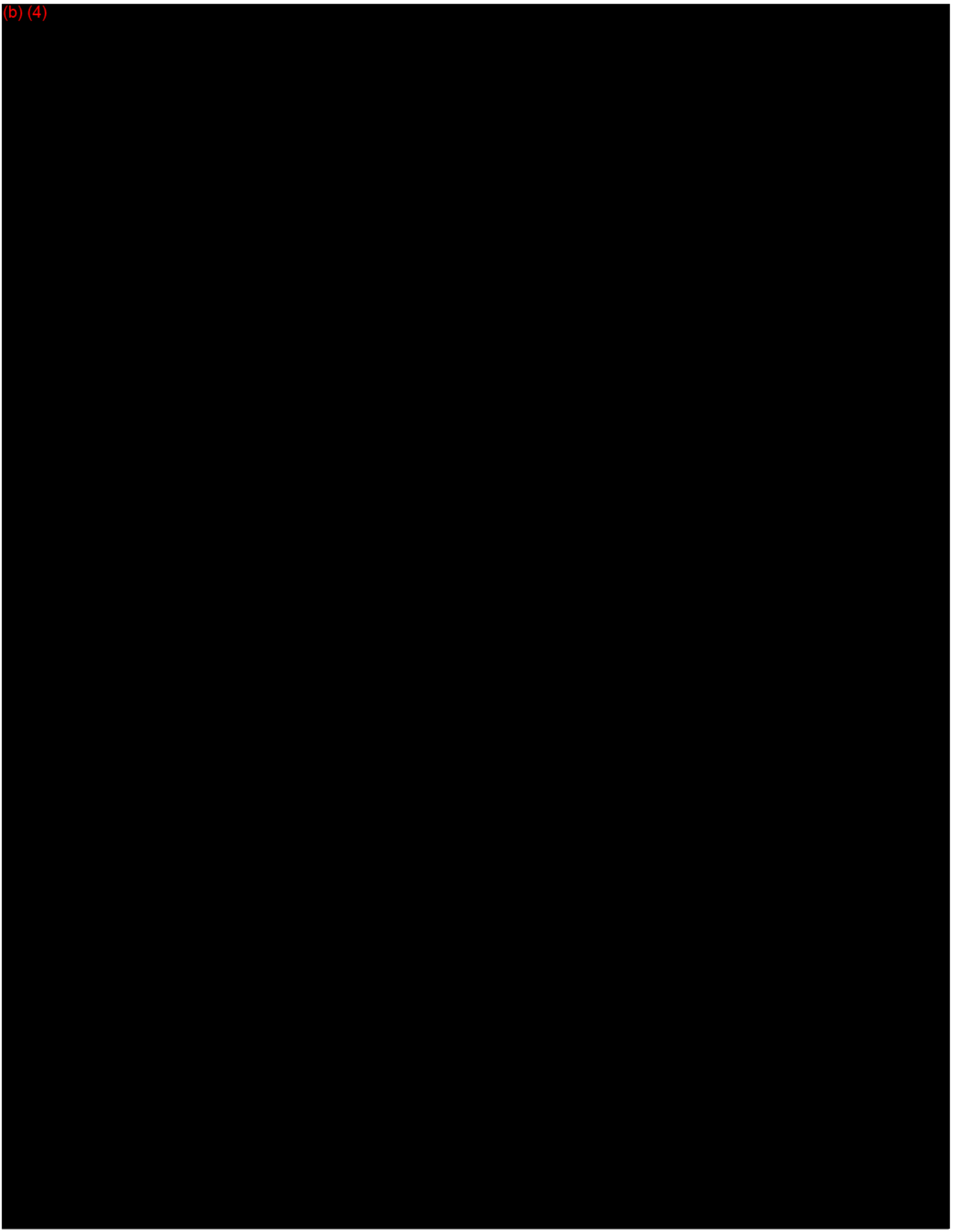
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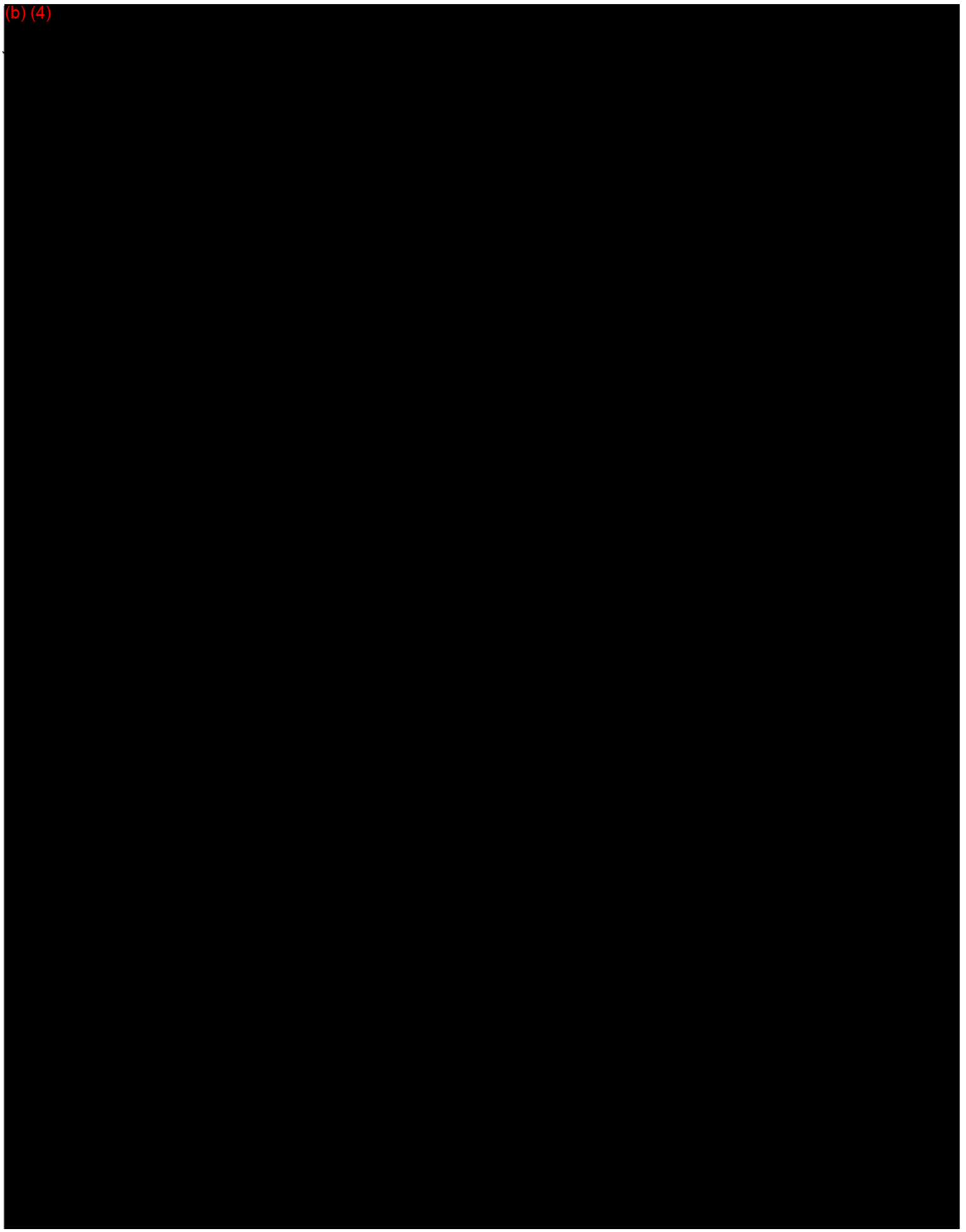

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[redacted]

*** END OF MSDS ***

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Joy Baker
Cc: Gary Lenertz, Gary Peterson, Bo Cumberland

Date: 04/01/08

From: Miles Root

Lab Memo: 08-052

Subject: **Afton Chemical Evaluations 0308-121 – 125**

Samples of viscosity improvers from Afton Chemical have been tested for compatibility with our black oil and light ends. Ash analyses have also been determined on two of the samples by an outside lab. All of the materials were compatible with the requested testing with either light ends or black oil. The HiTEC 9227 has a very high ash at 13.1 wt%. This entire spectrum of material is available in a lot of approximately 1000 drums that are partially filled with the various evaluation materials. All of the samples look clean and since they are in drums are able to be blended as needed to reduce the high ash content in the one stream. A summary of the test results is below.

Afton Chemicals Evals 0308-121 thru 125			
Eval #	Sample ID	Compatibility	Ash, wt%
0308-121	HiTEC 9227	Black Oil	13.1
0308-122	HiTEC 343	Black Oil	1.7
0308-123	HiTEC 5777	Light Ends	
0308-124	HiTEC 6560	Black Oil	
0308-125	HiTEC 5710A	Light Ends	

2829
Afton Chem Corp Edetta

EPAHO106002030

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **6/13/2008**

Dear **Ed Cox**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2829

Expiration Date 6/12/2010

Producer: Afton Chemical Corporation @ Delta Chemical
Address: 334 Tidal Road
Deer Park, TX 77536

Material / Product Information

Name of Material / Product Afton VI Improver - Polymer Based
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Unused product

Color: light amber **Odor:** amine like **pH:** 2-12
Physical State:
Incompatibilities: strong oxidizing reducing agents
Safety Related Data/Special Handling:
use chemical resistant gloves, suit and boots, safety goggles

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP
Reviewed. Paperwork OK
- No Generator Signature

Low density, Low vise. ✓

JB

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Material Producer Information

Company:	Afton Chemical Corporation @ Delta Chemical		
Address:	334 Tidal Road		
City, State, Zip:	Deer Park, TX 77536		
Contact:	Tim Menard	**Title:**	
Phone No:	281-680-4113	**Fax No:**	281-479-9842
24/hr Phone:	713-819-3172		
U.S. EPA I.D. No:			
State I.D.		**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above

Company:	Afton Chemical Corporation		
Address:	501 Monsanto Ave		
City, State, Zip:	Suget, Illinois 62201		
Contact:	Ed Cox	**Title:**	
Phone No:	1.618-583-1078	**Fax No:**	618-583-1388

SECTION 3: General Description of the Material / Product

Name of Material / Product: Afton VI Improver - Polymer Based
Detailed Description of Process Generating or Producing the Material / Product: Unused product

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: Light Amber **Odor:** Amine-like

Specific Gravity (water=1): 0.9 **Density:** 7.5 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☒ **Single-phase** ☐ **Multi-phase**

Container Type:	☒	**Drum**	☐ **Tote**	☐ **Truck**	☐	**Other (explain)**	
Container Size:		55 gal	____	____		____	

Frequency: ☐ **Weekly** ☐ **Monthly** ☒ **Quarterly** ☐ **Yearly**
Number of Units (containers): ____ **Other:** ____

Proper U.S. DOT Shipping Name: Product / Non RCRA/Non DOT Regulated Material

Class: NA **UN/NA:** NA **PG:** NA **RQ:** NA

EPAHO106002032

Flash Point	pH	N/A	N/A	Solids
>200	2-12			0%

Oil&Grease	TOC	Zinc	Copper	Nickel
100mg/l	0mg/l	0mg/l	0mg/l	0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Hitec Viscosity Improver - Polymer based	100%	%
		%
		%
		%
		%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
use chemical resistant gloves, suit and boots, as well as safety goggles

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Strong oxidizing and reducing agents

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: n/a **Date:** 6-12-08

Printed Name/Title: no signature required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: [signature] Date: 6-12-08 Approved Rejected Approval Number: 2829	

EPAHO106002033

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

Pay $.15/gal. no trans charges

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106002034

7. **Tests for Product Recovered/Recycled (if applicable):**

Check for blending compatibility with other line of viscosity improver from Afton. They recommended that we not blend the 2 lines of viscosity modifiers.

8. **Management for Product Recovered/Recycled (if applicable):**

Product cannot be sold as viscosity modifier per generator. Must blend with LIGHT ENDS. Do not blend with clay-based viscosity improver from Afton if blending test gives negative results. The drums should be deheaded and bulked in ISO container or tank. Scrape drums after bulking to remove product completely before shredding drums.

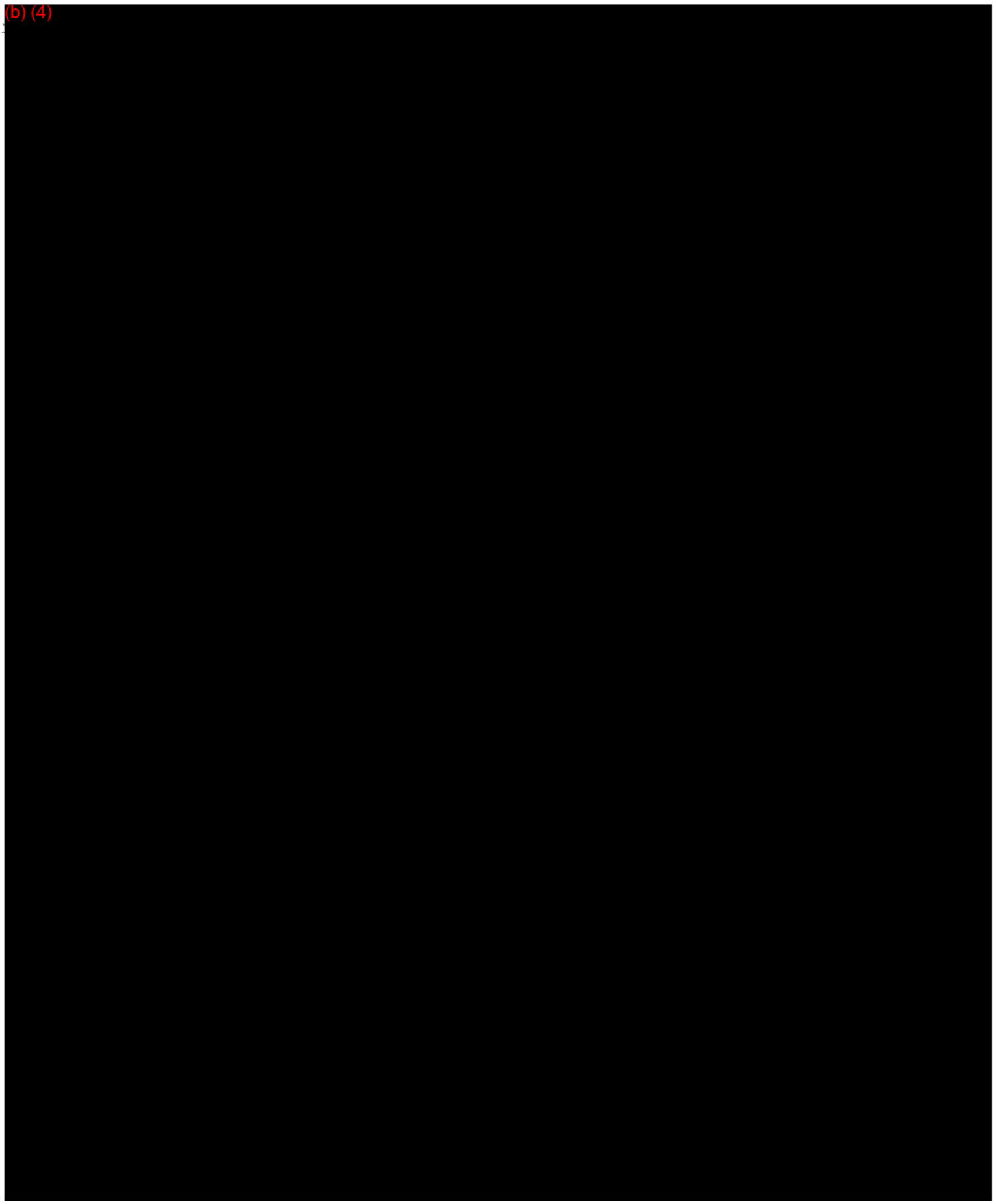
Afton™

Material
Safety Data Sheet

(b) (4)

[redacted]

(b) (4)



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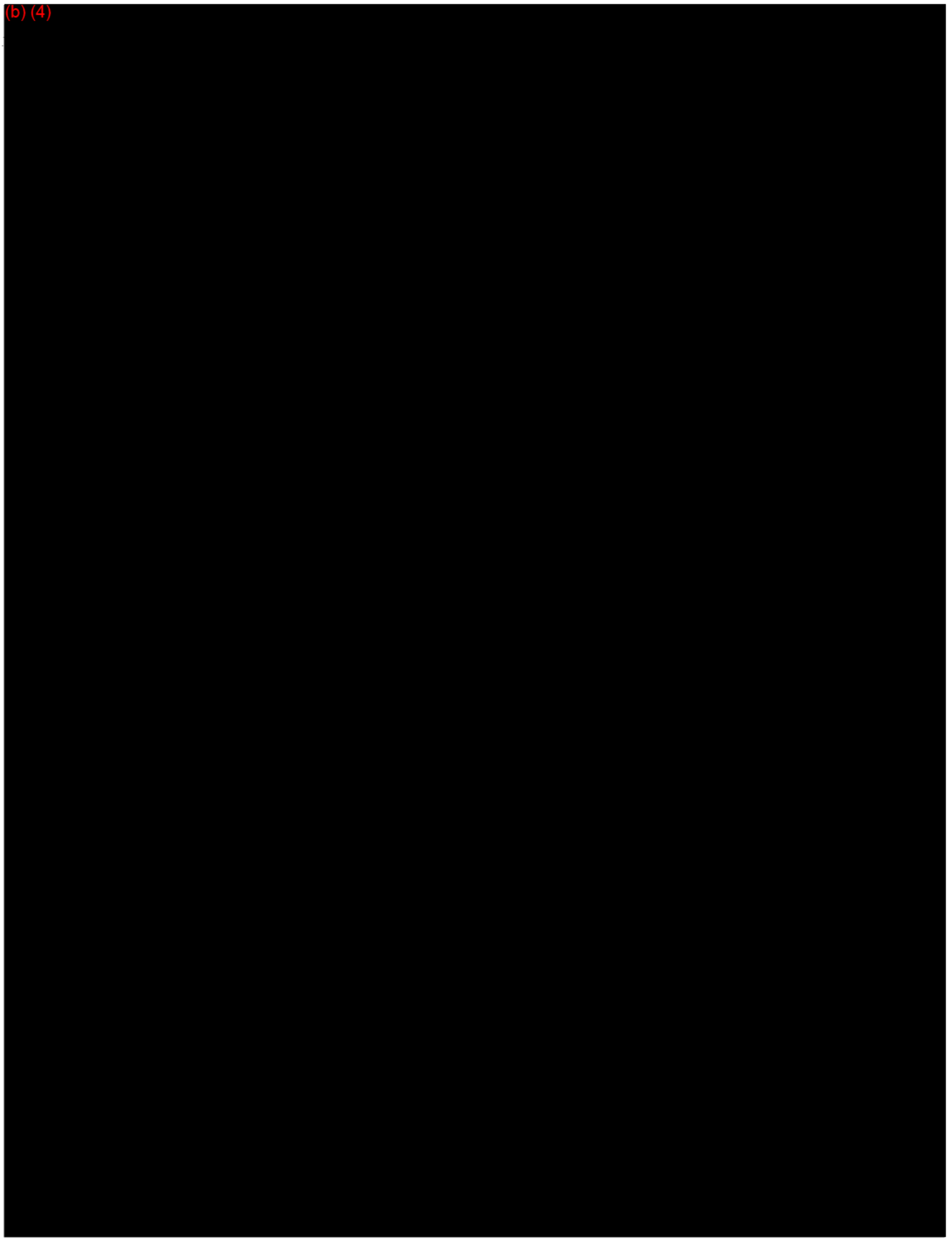

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[redacted]

*** END OF MSDS ***

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Joy Baker
Cc: Gary Lenertz, Gary Peterson, Bo Cumberland

Date: 04/01/08

From: Miles Root

Lab Memo: 08-052

Subject: **Afton Chemical Evaluations 0308-121 – 125**

Samples of viscosity improvers from Afton Chemical have been tested for compatibility with our black oil and light ends. Ash analyses have also been determined on two of the samples by an outside lab. All of the materials were compatible with the requested testing with either light ends or black oil. The HiTEC 9227 has a very high ash at 13.1 wt%. This entire spectrum of material is available in a lot of approximately 1000 drums that are partially filled with the various evaluation materials. All of the samples look clean and since they are in drums are able to be blended as needed to reduce the high ash content in the one stream. A summary of the test results is below.

Afton Chemicals Evals 0308-121 thru 125			
Eval #	Sample ID	Compatibility	Ash, wt%
0308-121	HiTEC 9227	Black Oil	13.1
0308-122	HiTEC 343	Black Oil	1.7
0308-123	HiTEC 5777	Light Ends	
0308-124	HiTEC 6560	Black Oil	
0308-125	HiTEC 5710A	Light Ends	

2830
Triangle Waste Solutions

EPAHO106002042

7E
LAS
8-4-09
T-35

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/13/2008**

Dear **Ronnie G. Fikes**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2830

Expiration Date 6/13/2010

Generator: Triangle Waste Solutions
Address: 1000 South Business Park Drive
Port Arthur, TX 77640

Waste Information

Name of Waste: R1333 Rust inhibited coolant/petro distillate
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Used coolant from operations
Color: varies **Odor:** glycol like **pH:** 7-10
Physical State:
Incompatibilities:
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

LR

Reverse osmosis treatment generated

GB

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Material Producer Information

Company:	Triangle Waste Solutions		
Address:	1000 South Business Park Dr		
City, State, Zip:	Port Arthur Texas 77640		
Contact:	Ronnie G. Fikes	Title:	Safety Coordinator
Phone No:	409-736-3600	Fax No:	409-736-2572
24/hr Phone:	409-736-3600		
U.S. EPA I.D. No:	TXR000057174		
State I.D.		SIC Code:	7359

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		Title:	
Phone No:		Fax No:	

SECTION 3: General Description of the Material / Product

Name of Material / Product: RI333 Rust Inhibited Coolant/Petro Distillate
Detailed Description of Process Generating or Producing the Material / Product: Used coolant from operations

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Varies Odor: glycol like

Specific Gravity (water=1): 1.026 Density: 8 lbs/gal

Layers: ☐ Single-phase ☒ Multi-phase

Container Type: ☐ Drum ☐ Tote ☒ Truck ☐ Other (explain)
Container Size: _____ _____ _____ _____

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Yearly
Number of Units (containers): _____ Other: as needed

Proper U.S. DOT Shipping Name: ~~Recyclable oily water~~ Non-RCRA, Non-DOT Reg material
Class: – UN/NA: – PG: – RQ: –

Flash Point >200	pH 7-10	N/A	N/A	Solids <3 %
Oil&Grease 0-100 mg/l	TOC <10,000 mg/l	Zinc <.25 mg/l	Copper <.05 mg/l	Nickel <.25 mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Rust Inhibited coolant (oil)	1-2	%
water	95-98	%
Benzene	0.50	ppm

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):

SECTION 8: Material Producer's Certification

The information contained herein is based on ☐ generator knowledge and/or ☒ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Ronnie A Fikes **Date:** 06-13-08

Printed Name/Title: Ronnie G. Fikes Safety Coordinator

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	**Process Facility Information:**
Technical Manager: Robert R Flanagan Date: 6-13-08 Approved Rejected Approval Number: 2830	

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$.35 / gal

2. **Contamination Limits (maximum limit before surcharges apply):**

~~Standard per rate disposal sheet~~

TOC > 10,000

Solids > 3%

3. **Surcharge Pricing:**

Standard per rate disposal sheet

4. **Special Testing Requirements:**

pH, TOC, phenol, oil & Solids

5. **Treatment and Handling Protocol:**

Waste must process to the heat ~~tank~~ and heated to at least 150°F. Up to 180°F is better. Process the top oil phase in the heat tank separation to black oil. This material contains benzene so it must process well in the oil process tank

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106002047

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

8. **Management for Product Recovered/Recycled (if applicable);**

EPAHO106002048

Triangle

Vulcan Oil & Chemical Products
A Division of
The Cincinnati Vulcan Company
5353 Spring Grove Avenue
Cincinnati, Ohio 45217
Phone: 513-242-2672
www.vulcanoil.com

Material Safety Data Sheet

Product Code: RI333
Revision Date: 03/26/2004
Revised By: MSDS Dept.

Section 1 - Product Identification

Product Name: RI 333 Rust Inhibited Coolant

Hazard Rating

	Health	Fire	Reactivity
NFPA Code:	1	0	0

0=Least 1=Slight 2=Moderate 3=High 4=Extreme

Section 2 - Hazardous Ingredients / Identity Information

Specific Identity; Common Names	OSHA PEL	ACGIH TLV	Other
Proprietary Formula - Specific Chemical Identities Have Been Withheld			
102-71-6 Alkanolamine	-	5 mg/m3	

Section 3 - Physical/Chemical Characteristics

Appearance	Blue liquid
Boiling Point, Deg. F	Not Known
Evaporation, BuAcetate=1	Slower than
Odor	Mild
Solubility in water	Complete
Vapor Density (Air=1)	Not Known
Vapor Pressure	Not Known
Pounds per Gallon	8.543
Specific Gravity	1.026

Section 4 - Fire and Explosion Hazard Data

Flash Point COC: NA Flammable Limits: LEL-Not Known UEL-Not Known
Extinguishing Media: Foam, dry chemical, water fog, carbon dioxide.
Special Fire Fighting Procedures: Cool fire exposed containers with water. Do not enter a confined fire space without full bunker gear and NIOSH approved supplied air breathing apparatus.
Unusual Fire and Explosion Hazards: Product is water based and will not burn until water has evaporated.

Section 5 - Reactivity Data

Stability - Stable.
Incompatibility - Strong acids. Nitrites. Oxidizing agents.
Hazardous Decomposition Products - Oxides of carbon. Oxides of nitrogen. Oxides of sulfur.
Hazardous Polymerization - Will not occur.
Other -
This product contains amines. Do not mix with nitrite or other nitrosating agents due to the potential for nitrosamine formation.

Section 6 - Health Hazard Data

Routes of Entry: Inhalation-yes Skin-yes Ingestion-yes
Health Hazards:
The health hazards listed below are for components to this mixture. The active ingredients are diluted in water in this mixture and the severity of the listed health hazards for this product may be reduced. This product is designed to be diluted significantly with water before product use. The severity of these health hazards may be reduced further at usage concentrations.
(Acute and Chronic Overexposure)

Eyes - Corrosive. Irritation. Redness, Severe damage. Swelling. Tearing.

continued...

2008-Jun-09 04:27 PM Triangle Waste 4097362572

EPAHO106002049

...continued

Skin - Corrosive. Repeated or prolonged contact may cause defatting, oil acne, irritation or
allergic reaction in sensitive individuals.

Inhalation - Harmful if inhaled. Slight Irritation.

Ingestion - Diarrhea. Harmful if swallowed. Irritation. Lethargy. Nausea. Vomiting. Swallowing this material can cause burns to the mouth and esophagus. Asphyxiation can occur from swelling of the throat. Perforation of the esophgus and stomach can occur.

Signs And Symptoms of Exposure - As Noted Above.

Medical Conditions Generally Aggravated By Exposure - None Known.

Other Precautions - NA

Other -
Long-term oral ingestion of ethanolamines by rats and guinea pigs produced damage to liver and kidneys. Long-term cutaneous applications to animals of ethanolamines also produced evidence of damage to liver and kidneys.

Carcinogenicity NTP-No IARC-No OSHA-No

Emergency and First Aid Procedures: Inhalation - remove to fresh air. Skin contact - wash using a mild soap. Eye contact - flush with water, see a physician. Ingestion - call a physician.

Section 7 - Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled:
Dike area. Recover free product. Add a dry absorbent material to spill area.

Waste Disposal Method: Dispose by methods consistent with local state and federal regulations.

Precautions to be Taken in Handling and Storing: Keep containers tightly closed. Use and store this product with adequate ventilation. Avoid inhalation of vapors and personal contact with the product. To dissipate static electricity during transfer, ground and/or bond both containers. Since emptied containers retain product residue, follow warnings even after container is emptied. Residue or vapors may explode on ignition; do not cut, drill, grind or weld on or near container even when empty.

Other Precautions:
Not Applicable

Section 8 - Control Measures

Respiratory Protection: Not normally required. Use NIOSH approved supplied air breathing equipment if vapors are excessive.

Ventilation: Local Exhaust : Not normally required.
Mechanical (General): Use general ventilation.

Protective Gloves: Use chemical-resistant gloves, if needed, to avoid skin contact.

Eye Protection: Use splash goggles or face shield when eye contact may occur.

Other Protective Clothing or Equipment: To prevent repeated or prolonged skin contact, wear impervious apron/clothing and boots.

Work/Hygienic Practices: Minimize breathing vapor, mist or fumes. Wash skin with soap and water after contact. Launder contaminated clothing.

continued...

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...continued

Section 9 - Regulatory Information

DOT Information
DOT Proper Shipping Name: None
DOT Hazard Code: None
UN Number: None

Section 313 Supplier Notification
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 (40 CFR 372):

CAS#	Common Name	Weight%
	None	

This information should be included in all MSDSs that are copied and distributed for this material.

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) by Vulcan Oil & Chemical Products.

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End of MSDS

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EPAHO106002051

TRIANGLE WASTE SOLUTIONS, LP

1000 South Business Park Drive
Port Arthur, Texas 77640
Phone: 409-736-3600
Fax: 409-736-2530

FACSIMILE TRANSMITTAL SHEET

409-833-9412

TO:	FROM:
CDS Environmental	Ron Fikes 409-736-3600 ext119 rfikes@trianglewaste.com
COMPANY:	**DATE:**
CDS Environmental	06-09-08
FAX NUMBER:	**TOTAL NO. OF PAGES INCLUDING COVER:**
713-748-8664	4

RE: OK ON WASTE
MSDS for review

☐ URGENT X FOR REVIEW ☐ PLEASE COMMENT PLEASE REPLY ☐ PLEASE RECYCLE

EPAHO106002052

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138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: *Triangle Waste Solutions*
1000 S. Business Park Drive
Port Arthur, TX 77640

Attn: *Mr. Ronnie Fikes*
Phone: 736-3600 Ext. 119; Fax: 736-2572
Email: rfikes@trianglewaste.com

Report Date: 06/11/08
Sample Matrix: Oil
Date Collected: 06/10/08
Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

CHEMTEX #	Sample Identification	Parameter	Units	Results	MDL
P8060260	Top	**Total Metals**			
		Total Aluminum	mg/kg	23.5	2.5
		Total Antimony	mg/kg	< 2.5	2.5
		Total Arsenic	mg/kg	< 2.5	2.5
		Total Barium	mg/kg	< 2.5	2.5
		Total Beryllium	mg/kg	< 2.5	2.5
		Total Cadmium	mg/kg	< 2.5	2.5
		Total Chromium	mg/kg	< 2.5	2.5
		Total Cobalt	mg/kg	< 2.5	2.5
		Total Copper	mg/kg	722.0	25.0
		Total Iron	mg/kg	18.9	2.5
		Total Lead	mg/kg	< 2.5	2.5
		Total Manganese	mg/kg	< 2.5	2.5
		Total Molybdenum	mg/kg	< 2.5	2.5
		Total Nickel	mg/kg	< 2.5	2.5
		Total Selenium	mg/kg	< 2.5	2.5
		Total Silver	mg/kg	< 2.5	2.5
		Total Thallium	mg/kg	< 2.5	2.5
		Total Vanadium	mg/kg	< 2.5	2.5
		Total Zinc	mg/kg	< 2.5	2.5
		Total Calcium	mg/kg	16.0	2.5
		Total Magnesium	mg/kg	5.5	2.5
		Total Potassium	mg/kg	148.5	2.5
		Total Sodium	mg/kg	220.8	2.5
		Reactive Cyanide	mg/kg	< 5	5
		Reactive Sulfide	mg/kg	< 10	10
		Ignitability	°F	> 200	--
		Corrosivity as pH	pH units	8.74	--
		T P H C_6-C_{12}	mg/kg	1,110	--
		T P H >C_{12}-C_{28}	mg/kg	21	--
		T P H >C_{28}-C_{35}	mg/kg	< 5	--
		T P H C_6-C_{35}	mg/kg	1,131	5
		Sulfate	mg/l	17,219	5

MDL: Method Detection Limit

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Email: rfikes@trianglewaste.com

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CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Top
CHEMTEX #: P8060260

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METMOD
67-64-1	Acetone	mg/kg	< 12.5	12.5	8260B
107-05-1	Allyl chloride	mg/kg	< 12.5	12.5	8260B
71-43-2	Benzene	mg/kg	19.1	2.50	8260B
108-86-1	Bromobenzene	mg/kg	< 2.50	2.50	8260B
74-97-5	Bromochloromethane	mg/kg	< 2.50	2.50	8260B
75-27-4	Bromodichloromethane	mg/kg	< 2.50	2.50	8260B
75-25-2	Bromoform	mg/kg	< 2.50	2.50	8260B
78-93-3	2-Butanone	mg/kg	< 12.5	12.5	8260B
104-51-8	n-Butylbenzene	mg/kg	< 2.50	2.50	8260B
74-83-9	Bromomethane	mg/kg	< 2.50	2.50	8260B
135-98-8	sec-Butylbenzene	mg/kg	< 2.50	2.50	8260B
98-06-6	tert-Butylbenzene	mg/kg	< 2.50	2.50	8260B
75-15-0	Carbon disulfide	mg/kg	< 2.50	2.50	8260B
56-23-5	Carbon tetrachloride	mg/kg	< 2.50	2.50	8260B
108-90-7	Chlorobenzene	mg/kg	< 2.50	2.50	8260B
75-00-3	Chloroethane	mg/kg	< 2.50	2.50	8260B
74-87-3	Chloromethane	mg/kg	< 2.50	2.50	8260B
67-66-3	Chloroform	mg/kg	< 2.50	2.50	8260B
95-49-8	2-Chlorotoluene	mg/kg	< 2.50	2.50	8260B
106-43-4	4-Chlorotoluene	mg/kg	< 2.50	2.50	8260B
110-75-8	2-Chloroethylvinyl ether	mg/kg	< 2.50	2.50	8260B
124-48-1	Dibromochloromethane	mg/kg	< 2.50	2.50	8260B
96-12-8	1,2-Dibromo-3-chloropropane	mg/kg	< 2.50	2.50	8260B
74-95-3	Dibromomethane	mg/kg	< 2.50	2.50	8260B
106-93-4	1,2-Dibromethane	mg/kg	< 2.50	2.50	8260B
95-50-1	1,2-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B
541-73-1	1,3-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B

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CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Top
CHEMTEX #: P8060260

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
106-46-7	1,4-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B
110-57-6	trans-1,4-Dichloro-2-butene	mg/kg	< 2.50	2.50	8260B
75-71-8	Dichlorodifluoromethane	mg/kg	< 2.50	2.50	8260B
75-34-3	1,1-Dichloroethane	mg/kg	< 2.50	2.50	8260B
107-06-2	1,2-Dichloroethane	mg/kg	< 2.50	2.50	8260B
75-35-4	1,1-Dichloroethene	mg/kg	< 2.50	2.50	8260B
156-59-2	cis-1,2-Dichloroethene	mg/kg	< 2.50	2.50	8260B
156-60-5	trans-1,2-Dichloroethene	mg/kg	< 2.50	2.50	8260B
78-87-5	1,2-Dichloropropane	mg/kg	< 2.50	2.50	8260B
142-28-9	1,3-Dichloropropane	mg/kg	< 2.50	2.50	8260B
563-58-6	1,1-Dichloropropene	mg/kg	< 2.50	2.50	8260B
10061-01-5	cis-1,3-Dichloropropene	mg/kg	< 2.50	2.50	8260B
10061-02-6	trans-1,3-Dichloropropene	mg/kg	< 2.50	2.50	8260B
100-41-4	Ethylbenzene	mg/kg	42.8	2.50	8260B
87-68-3	Hexachloro-1,3-butadiene	mg/kg	< 2.50	2.50	8260B
74-88-4	Idomethane	mg/kg	< 2.50	2.50	8260B
98-82-8	Isopropylbenzene	mg/kg	< 2.50	2.50	8260B
99-87-6	4-Isopropyltoluene	mg/kg	< 2.50	2.50	8260B
75-09-2	Methylene chloride	mg/kg	< 12.5	12.5	8260B
91-20-3	Napthalene	mg/kg	< 2.50	2.50	8260B
103-65-1	n-Propylbenzene	mg/kg	< 2.50	2.50	8260B
100-42-5	Styrene	mg/kg	< 2.50	2.50	8260B
630-20-6	1,1,1,2-Tetrachloroethane	mg/kg	< 2.50	2.50	8260B
79-34-5	1,1,2,2-Tetrachloroethane	mg/kg	< 2.50	2.50	8260B
127-18-4	Tetrachloroethene	mg/kg	< 2.50	2.50	8260B
108-88-3	Toluene	mg/kg	42.7	2.50	8260B
87-61-6	1,2,3-Trichlorobenzene	mg/kg	< 2.50	2.50	8260B
120-82-1	1,2,4-Trichlorobenzene	mg/kg	< 2.50	2.50	8260B
71-55-6	1,1,1-Trichloroethane	mg/kg	< 2.50	2.50	8260B

MDL: Method Detection Limit.

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138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: *Triangle Waste Solutions*
1000 S. Business Park Drive
Port Arthur, TX 77640

Attn: *Mr. Ronnie Fikes*
Phone: 736-3600 Ext. 119; Fax: 736-2572
Email: rfikes@trianglewaste.com

Report Date: 06/11/08
Sample Matrix: Oil
Date Collected: 06/10/08
Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101476

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Top
CHEMTEX #: P8060260

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
79-00-5	1,1,2-Trichloroethane	mg/kg	< 2.50	2.50	8260B
79-01-6	Trichloroethene	mg/kg	< 2.50	2.50	8260B
96-18-4	1,2,3-Trichloropropane	mg/kg	< 2.50	2.50	8260B
95-63-6	1,2,4-Trimethylbenzene	mg/kg	48.1	2.50	8260B
108-67-8	1,3,5-Trimethylbenzene	mg/kg	< 2.50	2.50	8260B
1330-20-7	Xylenes-total	mg/kg	46.1	2.50	8260B
75-69-4	Trichlorofluoromethane	mg/kg	< 2.50	2.50	8260B
75-01-4	Vinyl chloride	mg/kg	< 2.50	2.50	8260B

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CHEMTEX FILE #: P8060260

AIHA *Laboratory # 101476*

nelap *certificate # T104704239-08-TX*

RESULTS OF ANALYSIS

Sample Identification: Top
CHEMTEX #: P8060260

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
ACID COMPOUNDS					
95-57-8	2-Chlorophenol	mg/kg	< 0.34	0.34	8270C
120-83-2	2,4-Dichlorophenol	mg/kg	< 0.34	0.34	8270C
105-67-9	2,4-Dimethylphenol	mg/kg	< 0.34	0.34	8270C
534-52-1	4,6-Dinitro-o-Cresol	mg/kg	< 0.34	0.34	8270C
51-28-5	2,4-Dinitrophenol	mg/kg	< 1.70	1.70	8270C
88-75-5	2-Nitrophenol	mg/kg	< 1.70	1.70	8270C
100-02-7	4-Nitrophenol	mg/kg	< 0.34	0.34	8270C
59-50-7	p-Chloro-m-Cresol	mg/kg	< 0.34	0.34	8270C
107-86-5	Pentachlorophenol	mg/kg	< 1.70	1.70	8270C
108-95-2	Phenol	mg/kg	< 0.34	0.34	8270C
88-06-2	2,4,6-Trichlorophenol	mg/kg	< 0.34	0.34	8270C
BASE/NEUTRAL					
83-32-9	Acenaphthene	mg/kg	< 0.34	0.34	8270C
208-96-8	Acenaphthylene	mg/kg	< 0.34	0.34	8270C
120-12 7	Anthracene	mg/kg	< 0.34	0.34	8270C
92-87-5	Benzidine	mg/kg	< 0.34	0.34	8270C
56-55-3	Benzo(a)anthracene	mg/kg	< 0.08	0.08	8270C
50-32-8	Benzo(a)pyrene	mg/kg	< 0.08	0.08	8270C
205-99-2	3,4-Benzofluoranthene	mg/kg	< 0.34	0.34	8270C
191-24-2	Benzo(ghi)perylene	mg/kg	< 0.34	0.34	8270C
207-08-9	Benzo(k)fluoranthene	mg/kg	< 0.34	0.34	8270C
111-91-1	Bis(2-chloroethoxy)methane	mg/kg	< 0.34	0.34	8270C
111-44-4	Bis(2-chloroethyl)ether	mg/kg	< 0.34	0.34	8270C
100-60-1	Bis(2-chloroisopropyl)ether	mg/kg	< 0.34	0.34	8270C
117-81-7	Bis(2-ethylhexyl)phthalate	mg/kg	< 0.34	0.34	8270C
101-55-3	Bromophenyl-4 phenyl ether	mg/kg	< 0.34	0.34	8270C
85-68-7	Butylbenzyl phthalate	mg/kg	< 0.34	0.34	8270C
218-01-9	Chrysene	mg/kg	< 0.34	0.34	8270C

MDL: Method Detection Limit.

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AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS
Sample Identification: Top
CHEMTEX #: P8060260

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
BASE/NEUTRAL					
53-70-3	Dibenzo(a,h)anthracene	mg/kg	< 0.34	0.34	8270C
95-50-1	1,2-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
541-73-1	1,3-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
106-46-7	1,4-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
91-94-1	3,3'-Dichlorobenzidine	mg/kg	< 0.34	0.34	8270C
84-66-2	Diethyl phthalate	mg/kg	< 0.34	0.34	8270C
131-11-3	Dimethyl phthalate	mg/kg	< 0.34	0.34	8270C
84-74-2	Di-n-butyl phthalate	mg/kg	< 0.34	0.34	8270C
121-14-2	2,4-Dinitrotoluene	mg/kg	< 0.34	0.34	8270C
606-20-2	2,5-Dinitrotoluene	mg/kg	< 0.34	0.34	8270C
117-84-0	Di-n-octyl phthalate	mg/kg	< 0.34	0.34	8270C
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	mg/kg	< 0.34	0.34	8270C
206-44-0	Fluoranthene	mg/kg	< 0.34	0.34	8270C
86-73-7	Fluorene	mg/kg	< 0.34	0.34	8270C
118-74-1	Hexachlorobenzene	mg/kg	< 0.34	0.34	8270C
87-68-3	Hexachlorobutadiene	mg/kg	< 0.34	0.34	8270C
77-47-4	Hexachlorocyclopentadiene	mg/kg	< 0.34	0.34	8270C
67-72-1	Hexachloroethane	mg/kg	< 0.34	0.34	8270C
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	< 0.34	0.34	8270C
78-59-1	Isophorone	mg/kg	< 0.34	0.34	8270C
91-20-3	Naphthalene	mg/kg	< 0.34	0.34	8270C
98-95-3	Nitrobenzene	mg/kg	< 0.34	0.34	8270C
62-75-9	N-Nitrosodimethylamine	mg/kg	< 0.34	0.34	8270C
621-64-7	N-Nitrosodi-n-propylamine	mg/kg	< 0.34	0.34	8270C
86-30-6	N-Nitrosodiphenylamine	mg/kg	< 0.34	0.34	8270C
85-01-8	Phenanthrene	mg/kg	< 0.34	0.34	8270C
129-00-0	Pyrene	mg/kg	< 0.34	0.34	8270C
120-82-1	1,2,4-Trichlorobenzene	mg/kg	< 0.34	0.34	8270C

MDL: Method Detection Limit.

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138 S. Civics Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: *Triangle Waste Solutions*
1000 S. Business Park Drive
Port Arthur, TX 77640

Attn: *Mr. Ronnie Fikes*
Phone: 736-3600 Ext. 119/ Fax: 736-2572
Email: rfikes@trianglewaste.com

Report Date: 06/11/08
Sample Matrix: Oil
Date Collected: 06/10/08
Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

CHEMTEX #	Sample Identification	Parameter	Units	Results	MDL
P8060261	Middle	**Total Metals**			
		Total Aluminum	mg/kg	12.1	2.5
		Total Antimony	mg/kg	< 2.5	2.5
		Total Arsenic	mg/kg	< 2.5	2.5
		Total Barium	mg/kg	< 2.5	2.5
		Total Beryllium	mg/kg	< 2.5	2.5
		Total Cadmium	mg/kg	< 2.5	2.5
		Total Chromium	mg/kg	< 2.5	2.5
		Total Cobalt	mg/kg	< 2.5	2.5
		Total Copper	mg/kg	1036.5	25.0
		Total Iron	mg/kg	15.4	2.5
		Total Lead	mg/kg	< 2.5	2.5
		Total Manganese	mg/kg	< 2.5	2.5
		Total Molybdenum	mg/kg	< 2.5	2.5
		Total Nickel	mg/kg	< 2.5	2.5
		Total Selenium	mg/kg	< 2.5	2.5
		Total Silver	mg/kg	< 2.5	2.5
		Total Thallium	mg/kg	< 2.5	2.5
		Total Vanadium	mg/kg	< 2.5	2.5
		Total Zinc	mg/kg	< 2.5	2.5
		Total Calcium	mg/kg	13.8	2.5
		Total Magnesium	mg/kg	5.2	2.5
		Total Potassium	mg/kg	135.9	2.5
		Total Sodium	mg/kg	207.8	2.5
		Reactive Cyanide	mg/kg	< 5	5
		Reactive Sulfide	mg/kg	< 10	10
		Ignitability	°F	> 200	--
		Corrosivity as pH	pH units	8.72	--
		T P H C_6-C_{12}	mg/kg	726	--
		T P H >C_{12}-C_{28}	mg/kg	26	--
		T P H >C_{28}-C_{35}	mg/kg	< 5	--
		T P H C_6-C_{35}	mg/kg	752	5
		Sulfate	mg/l	15,791	5

MDL: Method Detection Limit

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Email: rfikes@trianglewaste.com

Report Date: 06/11/08
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Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Middle
CHEMTEX #: P8060261

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
67-64-1	Acetone	mg/kg	< 12.5	12.5	8260B
107-05-1	Allyl chloride	mg/kg	< 12.5	12.5	8260B
71-43-2	Benzene	mg/kg	21.9	2.50	8260B
108-86-1	Bromobenzene	mg/kg	< 2.50	2.50	8260B
74-97-5	Bromochloromethane	mg/kg	< 2.50	2.50	8260B
75-27-4	Bromodichloromethane	mg/kg	< 2.50	2.50	8260B
75-25-2	Bromoform	mg/kg	< 2.50	2.50	8260B
78-93-3	2-Butanone	mg/kg	< 12.5	12.5	8260B
104-51-8	n-Butylbenzene	mg/kg	< 2.50	2.50	8260B
74-83-9	Bromomethane	mg/kg	< 2.50	2.50	8260B
135-98-8	sec-Butylbenzene	mg/kg	< 2.50	2.50	8260B
98-06-6	tert-Butylbenzene	mg/kg	< 2.50	2.50	8260B
75-15-0	Carbon disulfide	mg/kg	< 2.50	2.50	8260B
56-23-5	Carbon tetrachloride	mg/kg	< 2.50	2.50	8260B
108-90-7	Chlorobenzene	mg/kg	< 2.50	2.50	8260B
75-00-3	Chloroethane	mg/kg	< 2.50	2.50	8260B
74-87-3	Chloromethane	mg/kg	< 2.50	2.50	8260B
67-66-3	Chloroform	mg/kg	< 2.50	2.50	8260B
95-49-8	2-Chlorotoluene	mg/kg	< 2.50	2.50	8260B
106-43-4	4-Chlorotoluene	mg/kg	< 2.50	2.50	8260B
110-75-8	2-Chloroethylvinyl ether	mg/kg	< 2.50	2.50	8260B
124-48-1	Dibromochloromethane	mg/kg	< 2.50	2.50	8260B
96-12-8	1,2-Dibromo-3-chloropropane	mg/kg	< 2.50	2.50	8260B
74-95-3	Dibromomethane	mg/kg	< 2.50	2.50	8260B
106-93-4	1,2-Dibromethane	mg/kg	< 2.50	2.50	8260B
95-50-1	1,2-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B
541-73-1	1,3-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B

MDL: Method Detection Limit

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Email: rfikes@trianglewaste.com

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Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Middle
CHEMTEX #: P8060261

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
106-46-7	1,4-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B
110-57-6	trans-1,4-Dichloro-2-butene	mg/kg	< 2.50	2.50	8260B
75-71-8	Dichlorodifluoromethane	mg/kg	< 2.50	2.50	8260B
75-34-3	1,1-Dichloroethane	mg/kg	< 2.50	2.50	8260B
107-06-2	1,2-Dichloroethane	mg/kg	< 2.50	2.50	8260B
75-35-4	1,1-Dichloroethene	mg/kg	< 2.50	2.50	8260B
156-59-2	cis-1,2-Dichloroethene	mg/kg	< 2.50	2.50	8260B
156-60-5	trans-1,2-Dichloroethene	mg/kg	< 2.50	2.50	8260B
78-87-5	1,2-Dichloropropane	mg/kg	< 2.50	2.50	8260B
142-28-9	1,3-Dichloropropane	mg/kg	< 2.50	2.50	8260B
563-58-6	1,1-Dichloropropene	mg/kg	< 2.50	2.50	8260B
10061-01-5	cis-1,3-Dichloropropene	mg/kg	< 2.50	2.50	8260B
10061-02-6	trans-1,3-Dichloropropene	mg/kg	< 2.50	2.50	8260B
100-41-4	Ethylbenzene	mg/kg	35.7	2.50	8260B
87-68-3	Hexachloro-1,3-butadiene	mg/kg	< 2.50	2.50	8260B
74-88-4	Idomethane	mg/kg	< 2.50	2.50	8260B
98-82-8	Isopropylbenzene	mg/kg	< 2.50	2.50	8260B
99-87-6	4-Isopropyltoluene	mg/kg	< 2.50	2.50	8260B
75-09-2	Methylene chloride	mg/kg	< 12.5	12.5	8260B
91-20-3	Naphthalene	mg/kg	< 2.50	2.50	8260B
103-65-1	n-Propylbenzene	mg/kg	< 2.50	2.50	8260B
100-42-5	Styrene	mg/kg	< 2.50	2.50	8260B
630-20-6	1,1,1,2-Tetrachloroethane	mg/kg	< 2.50	2.50	8260B
79-34-5	1,1,2,2-Tetrachloroethane	mg/kg	< 2.50	2.50	8260B
127-18-4	Tetrachloroethene	mg/kg	< 2.50	2.50	8260B
108-88-3	Toluene	mg/kg	39.0	2.50	8260B
87-61-6	1,2,3-Trichlorobenzene	mg/kg	< 2.50	2.50	8260B
120-82-1	1,2,4-Trichlorobenzene	mg/kg	< 2.50	2.50	8260B
71-55-6	1,1,1-Trichloroethane	mg/kg	< 2.50	2.50	8260B

MDL: Method Detection Limit.

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138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: Triangle Waste Solutions
1000 S. Business Park Drive
Port Arthur, TX 77640

Attn: Mr. Ronnie Fikes
Phone: 736-3600 Ext. 119; Fax: 736-2572
Email: rfikes@trianglewaste.com

Report Date: 06/11/08
Sample Matrix: Oil
Date Collected: 06/10/08
Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Middle
CHEMTEX #: P8060261

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
79-00-5	1,1,2-Trichloroethane	mg/kg	< 2.50	2.50	8260B
79-01-6	Trichloroethene	mg/kg	< 2.50	2.50	8260B
96-18-4	1,2,3-Trichloropropane	mg/kg	< 2.50	2.50	8260B
95-63-6	1,2,4-Trimethylbenzene	mg/kg	43.8	2.50	8260B
108-67-8	1,3,5-Trimethylbenzene	mg/kg	< 2.50	2.50	8260B
1330-20-7	Xylenes-total	mg/kg	41.6	2.50	8260B
75-69-4	Trichlorofluoromethane	mg/kg	< 2.50	2.50	8260B
75-01-4	Vinyl chloride	mg/kg	< 2.50	2.50	8260B

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CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Middle
CHEMTEX #: P8060261

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
ACID COMPOUNDS					
95-57-8	2-Chlorophenol	mg/kg	< 0.34	0.34	8270C
120-83-2	2,4-Dichlorophenol	mg/kg	< 0.34	0.34	8270C
105-67-9	2,4-Dimethylphenol	mg/kg	< 0.34	0.34	8270C
534-52-1	4,6-Dinitro-o-Cresol	mg/kg	< 0.34	0.34	8270C
51-28-5	2,4-Dinitrophenol	mg/kg	< 1.70	1.70	8270C
88-75-5	2-Nitrophenol	mg/kg	< 1.70	1.70	8270C
100-02-7	4-Nitrophenol	mg/kg	< 0.34	0.34	8270C
59-50-7	p-Chloro-m-Cresol	mg/kg	< 0.34	0.34	8270C
107-86-5	Pentachlorophenol	mg/kg	< 1.70	1.70	8270C
108-95-2	Phenol	mg/kg	< 0.34	0.34	8270C
88-06-2	2,4,6-Trichlorophenol	mg/kg	< 0.34	0.34	8270C
BASE/NEUTRAL					
83-32-9	Acenaphthene	mg/kg	< 0.34	0.34	8270C
208-96-8	Acenaphthylene	mg/kg	< 0.34	0.34	8270C
120-12 7	Anthracene	mg/kg	< 0.34	0.34	8270C
92-87-5	Benzidine	mg/kg	< 0.34	0.34	8270C
56-55-3	Benzo(a)anthracene	mg/kg	< 0.08	0.08	8270C
50-32-8	Benzo(a)pyrene	mg/kg	< 0.08	0.08	8270C
205-99-2	3,4-Benzofluoranthene	mg/kg	< 0.34	0.34	8270C
191-24-2	Benzo(ghi)perylene	mg/kg	< 0.34	0.34	8270C
207-08-9	Benzo(k)fluoranthene	mg/kg	< 0.34	0.34	8270C
111-91-1	Bis(2-chloroethoxy)methane	mg/kg	< 0.34	0.34	8270C
111-44-4	Bis(2-chloroethyl)ether	mg/kg	< 0.34	0.34	8270C
108-60-1	Bis(2-chloroisopropyl)ether	mg/kg	< 0.34	0.34	8270C
117-81-7	Bis(2-ethylhexyl)phthalate	mg/kg	< 0.34	0.34	8270C
101-55-3	Bromophenyl-4 phenyl ether	mg/kg	< 0.34	0.34	8270C
85-68-7	Butylbenzyl phthalate	mg/kg	< 0.34	0.34	8270C
218-01-9	Chrysene	mg/kg	< 0.34	0.34	8270C

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Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704238-08-TX

RESULTS OF ANALYSIS
Sample Identification: Middle
CHEMTEX #: P8060261

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
BASE/NEUTRAL					
53-70-3	Dibenzo(a,h)anthracene	mg/kg	< 0.34	0.34	8270C
95-50-1	1,2-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
541-73-1	1,3-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
106-46-7	1,4-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
91-94-1	3,3'-Dichlorobenzidine	mg/kg	< 0.34	0.34	8270C
84-66-2	Diethyl phthalate	mg/kg	< 0.34	0.34	8270C
131-11-3	Dimethyl phthalate	mg/kg	< 0.34	0.34	8270C
84-74-2	Di-n-butyl phthalate	mg/kg	< 0.34	0.34	8270C
121-14-2	2,4-Dinitrotoluene	mg/kg	< 0.34	0.34	8270C
606-20-2	2,6-Dinitrotoluene	mg/kg	< 0.34	0.34	8270C
117-84-0	Di-n-octyl phthalate	mg/kg	< 0.34	0.34	8270C
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	mg/kg	< 0.34	0.34	8270C
206-44-0	Fluoranthene	mg/kg	< 0.34	0.34	8270C
86-73-7	Fluorene	mg/kg	< 0.34	0.34	8270C
118-74-1	Hexachlorobenzene	mg/kg	< 0.34	0.34	8270C
87-68-3	Hexachlorobutadiene	mg/kg	< 0.34	0.34	8270C
77-47-4	Hexachlorocyclopentadiene	mg/kg	< 0.34	0.34	8270C
67-72-1	Hexachloroethane	mg/kg	< 0.34	0.34	8270C
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	< 0.34	0.34	8270C
78-59-1	Isophorone	mg/kg	< 0.34	0.34	8270C
91-20-3	Naphthalene	mg/kg	< 0.34	0.34	8270C
98-95-3	Nitrobenzene	mg/kg	< 0.34	0.34	8270C
62-75-9	N-Nitrosodimethylamine	mg/kg	< 0.34	0.34	8270C
621-64-7	N-Nitrosodi-n-propylamine	mg/kg	< 0.34	0.34	8270C
86-30-6	N-Nitrosodiphenylamine	mg/kg	< 0.34	0.34	8270C
85-01-8	Phenanthrene	mg/kg	< 0.34	0.34	8270C
129-00-0	Pyrene	mg/kg	< 0.34	0.34	8270C
120-82-1	1,2,4-Trichlorobenzene	mg/kg	< 0.34	0.34	8270C

MDL: Method Detection Limit.

Parameter	Date Analyzed/Analysts
Semi-Volatiles	05/08/01 YDR/LNR

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Client: Triangle Waste Solutions
1000 S. Business Park Drive
Port Arthur, TX 77640

Attn: Mr. Ronnie Fikes
Phone: 736-3600 EXT. 119; Fax: 736-2572
Email: rfikes@trianglewaste.com

Report Date: 06/11/08
Sample Matrix: Oil
Date Collected: 06/10/08
Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704238-08-TX

RESULTS OF ANALYSIS

CHEMTEX #	Sample Identification	Parameter	Units	Results	MDL
P8060262	Bottom	**Total Metals**			
		Total Aluminum	mg/kg	6.1	2.5
		Total Antimony	mg/kg	< 2.5	2.5
		Total Arsenic	mg/kg	< 2.5	2.5
		Total Barium	mg/kg	< 2.5	2.5
		Total Beryllium	mg/kg	< 2.5	2.5
		Total Cadmium	mg/kg	< 2.5	2.5
		Total Chromium	mg/kg	< 2.5	2.5
		Total Cobalt	mg/kg	< 2.5	2.5
		Total Copper	mg/kg	576.0	25.0
		Total Iron	mg/kg	10.7	2.5
		Total Lead	mg/kg	< 2.5	2.5
		Total Manganese	mg/kg	< 2.5	2.5
		Total Molybdenum	mg/kg	< 2.5	2.5
		Total Nickel	mg/kg	< 2.5	2.5
		Total Selenium	mg/kg	< 2.5	2.5
		Total Silver	mg/kg	< 2.5	2.5
		Total Thallium	mg/kg	< 2.5	2.5
		Total Vanadium	mg/kg	< 2.5	2.5
		Total Zinc	mg/kg	< 2.5	2.5
		Total Calcium	mg/kg	11.7	2.5
		Total Magnesium	mg/kg	4.3	2.5
		Total Potassium	mg/kg	122.4	2.5
		Total Sodium	mg/kg	181.3	2.5
		Reactive Cyanide	mg/kg	< 5	5
		Reactive Sulfide	mg/kg	< 10	10
		Ignitability	°F	> 200	--
		Corrosivity as pH	pH units	8.75	--
		T P H C_6-C_{12}	mg/kg	374	--
		T P H >C_{12}-C_{28}	mg/kg	15	--
		T P H >C_{28}-C_{35}	mg/kg	< 5	--
		T P H C_6-C_{35}	mg/kg	389	5
		Sulfate	mg/l	15,935	5

MDL: Method Detection Limit.

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Email: rfikes@trianglewaste.com

Report Date: 06/11/08
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Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Bottom
CHEMTEX #: P8060262

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
67-64-1	Acetone	mg/kg	< 12.5	12.5	8260B
107-05-1	Allyl chloride	mg/kg	< 12.5	12.5	8260B
71-43-2	Benzene	mg/kg	56.6	2.50	8260B
108-86-1	Bromobenzene	mg/kg	< 2.50	2.50	8260B
74-97-5	Bromochloromethane	mg/kg	< 2.50	2.50	8260B
75-27-4	Bromodichloromethane	mg/kg	< 2.50	2.50	8260B
75-25-2	Bromoform	mg/kg	< 2.50	2.50	8260B
78-93-3	2-Butanone	mg/kg	< 12.5	12.5	8260B
104-51-8	n-Butylbenzene	mg/kg	< 2.50	2.50	8260B
74-83-9	Bromomethane	mg/kg	< 2.50	2.50	8260B
135-98-8	sec-Butylbenzene	mg/kg	< 2.50	2.50	8260B
98-06-6	tert-Butylbenzene	mg/kg	< 2.50	2.50	8260B
75-15-0	Carbon disulfide	mg/kg	< 2.50	2.50	8260B
56-23-5	Carbon tetrachloride	mg/kg	< 2.50	2.50	8260B
108-90-7	Chlorobenzene	mg/kg	< 2.50	2.50	8260B
75-00-3	Chloroethane	mg/kg	< 2.50	2.50	8260B
74-87-3	Chloromethane	mg/kg	< 2.50	2.50	8260B
67-66-3	Chloroform	mg/kg	< 2.50	2.50	8260B
95-49-8	2-Chlorotoluene	mg/kg	< 2.50	2.50	8260B
106-43-4	4-Chlorotoluene	mg/kg	< 2.50	2.50	8260B
110-75-8	2-Chloroethylvinyl ether	mg/kg	< 2.50	2.50	8260B
124-48-1	Dibromochloromethane	mg/kg	< 2.50	2.50	8260B
96-12-8	1,2-Dibromo-3-chloropropane	mg/kg	< 2.50	2.50	8260B
74-95-3	Dibromomethane	mg/kg	< 2.50	2.50	8260B
106-93-4	1,2-Dibromethane	mg/kg	< 2.50	2.50	8260B
95-50-1	1,2-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B
541-73-1	1,3-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B

MDL: Method Detection Limit

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Email: rfikes@trianglewaste.com

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Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Bottom
CHEMTEX #: P8060262

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
106-46-7	1,4-Dichlorobenzene	mg/kg	< 2.50	2.50	8260B
110-57-6	trans-1,4-Dichloro-2-butene	mg/kg	< 2.50	2.50	8260B
75-71-8	Dichlorodifluoromethane	mg/kg	< 2.50	2.50	8260B
75-34-3	1,1-Dichloroethane	mg/kg	< 2.50	2.50	8260B
107-06-2	1,2-Dichloroethane	mg/kg	< 2.50	2.50	8260B
75-35-4	1,1-Dichloroethene	mg/kg	< 2.50	2.50	8260B
156-59-2	cis-1,2-Dichloroethene	mg/kg	< 2.50	2.50	8260B
156-60-5	trans-1,2-Dichloroethene	mg/kg	< 2.50	2.50	8260B
78-87-5	1,2-Dichloropropane	mg/kg	< 2.50	2.50	8260B
142-28-9	1,3-Dichloropropane	mg/kg	< 2.50	2.50	8260B
563-58-6	1,1-Dichloropropene	mg/kg	< 2.50	2.50	8260B
10061-01-5	cis-1,3-Dichloropropene	mg/kg	< 2.50	2.50	8260B
10061-02-6	trans-1,3-Dichloropropene	mg/kg	< 2.50	2.50	8260B
100-41-4	Ethylbenzene	mg/kg	69.8	2.50	8260B
87-68-3	Hexachloro-1,3-butadiene	mg/kg	< 2.50	2.50	8260B
74-88-4	Idomethane	mg/kg	< 2.50	2.50	8260B
98-82-8	Isopropylbenzene	mg/kg	< 2.50	2.50	8260B
99-87-6	4-Isopropyltoluene	mg/kg	< 2.50	2.50	8260B
75-09-2	Methylene chloride	mg/kg	< 12.5	12.5	8260B
91-20-3	Napthalene	mg/kg	< 2.50	2.50	8260B
103-65-1	n-Propylbenzene	mg/kg	< 2.50	2.50	8260B
100-42-5	Styrene	mg/kg	< 2.50	2.50	8260B
630-20-6	1,1,1,2-Tetrachloroethane	mg/kg	< 2.50	2.50	8260B
79-34-5	1,1,2,2-Tetrachloroethane	mg/kg	< 2.50	2.50	8260B
127-18-4	Tetrachloroethene	mg/kg	< 2.50	2.50	8260B
108-88-3	Toluene	mg/kg	238.5	2.50	8260B
87-61-6	1,2,3-Trichlorobenzene	mg/kg	< 2.50	2.50	8260B
120-82-1	1,2,4-Trichlorobenzene	mg/kg	< 2.50	2.50	8260B
71-55-6	1,1,1-Trichloroethane	mg/kg	< 2.50	2.50	8260B

MDL: Method Detection Limit.

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Client: *Triangle Waste Solutions*
1000 S. Business Park Drive
Port Arthur, TX 77640

Attn: *Mr. Ronnie Fikes*
Phone: 736-3600 Ext. 119; Fax: 736-2572
Email: rfikes@triangleWaste.com

Report Date: 06/11/08
Sample Matrix: Oil
Date Collected: 06/10/08
Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS

Sample Identification: Bottom
CHEMTEX #: P8060262

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
79-00-5	1,1,2-Trichloroethane	mg/kg	< 2.50	2.50	8260B
79-01-6	Trichloroethene	mg/kg	< 2.50	2.50	8260B
96-18-4	1,2,3-Trichloropropane	mg/kg	< 2.50	2.50	8260B
95-63-6	1,2,4-Trimethylbenzene	mg/kg	< 2.50	2.50	8260B
108-67-8	1,3,5-Trimethylbenzene	mg/kg	< 2.50	2.50	8260B
1330-20-7	Xylenes-total	mg/kg	273.8	2.50	8260B
75-69-4	Trichlorofluoromethane	mg/kg	< 2.50	2.50	8260B
75-01-4	Vinyl chloride	mg/kg	< 2.50	2.50	8260B

MDL: Method Detection Limit.

Parameter	Date Analyzed/Analysts
Volatiles	06/10/08 KBR/PPS

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Report Date: 06/11/08
Sample Matrix: Oil
Date Collected: 06/10/08
Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704235-08-TX

RESULTS OF ANALYSIS

Sample Identification: Bottom
CHEMTEX #: P8060262

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
ACID COMPOUNDS					
95-57-8	2-Chlorophenol	mg/kg	< 0.34	0.34	8270C
120-83-2	2,4-Dichlorophenol	mg/kg	< 0.34	0.34	8270C
105-67-9	2,4-Dimethylphenol	mg/kg	< 0.34	0.34	8270C
534-52-1	4,6-Dinitro-o-Cresol	mg/kg	< 0.34	0.34	8270C
51-28-5	2,4-Dinitrophenol	mg/kg	< 1.70	1.70	8270C
88-75-5	2-Nitrophenol	mg/kg	< 1.70	1.70	8270C
100-02-7	4-Nitrophenol	mg/kg	< 0.34	0.34	8270C
59-50-7	p-Chloro-m-Cresol	mg/kg	< 0.34	0.34	8270C
87-86-5	Pentachlorophenol	mg/kg	< 1.70	1.70	8270C
108-95-2	Phenol	mg/kg	< 0.34	0.34	8270C
88-06-2	2,4,6-Trichlorophenol	mg/kg	< 0.34	0.34	8270C
BASE/NEUTRAL					
83-32-9	Acenaphthene	mg/kg	< 0.34	0.34	8270C
208-96-8	Acenaphthylene	mg/kg	< 0.34	0.34	8270C
120-12 7	Anthracene	mg/kg	< 0.34	0.34	8270C
92-87-5	Benzidine	mg/kg	< 0.34	0.34	8270C
56-55-3	Benzo(a)anthracene	mg/kg	< 0.08	0.08	8270C
50-32-8	Benzo(a)pyrene	mg/kg	< 0.08	0.08	8270C
205-99-2	3,4-Benzofluoranthene	mg/kg	< 0.34	0.34	8270C
191-24-2	Benzo(ghi)perylene	mg/kg	< 0.34	0.34	8270C
207-08-9	Benzo(k)fluoranthene	mg/kg	< 0.34	0.34	8270C
111-91-1	Bis(2-chloroethoxy)methane	mg/kg	< 0.34	0.34	8270C
111-44-4	Bis(2-chloroethyl)ether	mg/kg	< 0.34	0.34	8270C
108-60-1	Bis(2-chloroisopropyl)ether	mg/kg	< 0.34	0.34	8270C
117-81-7	Bis(2-ethylhexyl)phthalate	mg/kg	< 0.34	0.34	8270C
101-55-3	Bromophenyl-4 phenyl ether	mg/kg	< 0.34	0.34	8270C
85-68-7	Butylbenzyl phthalate	mg/kg	< 0.34	0.34	8270C
218-01-9	Chrysene	mg/kg	< 0.34	0.34	8270C

MDL: Method Detection Limit.

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Date Collected: 06/10/08
Time Collected: 09:30am
Collected By: Client
Date Received: 06/10/08
Time Received: 10:00am
CHEMTEX FILE #: PB060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

RESULTS OF ANALYSIS
Sample Identification: Bottom
CHEMTEX #: PB060262

CAS #	COMPOUND NAME	Units	Results	MDL	EPA METHOD
BASE/NEUTRAL					
53-70-3	Dibenzo(a,h)anthracene	mg/kg	< 0.34	0.34	8270C
95-50-1	1,2-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
541-73-1	1,3-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
106-46-7	1,4-Dichlorobenzene	mg/kg	< 0.34	0.34	8270C
91-94-1	3,3'-Dichlorobenzidine	mg/kg	< 0.34	0.34	8270C
84-66-2	Diethyl phthalate	mg/kg	< 0.34	0.34	8270C
131-11-3	Dimethyl phthalate	mg/kg	< 0.34	0.34	8270C
84-74-2	Di-n-butyl phthalate	mg/kg	< 0.34	0.34	8270C
121-14-2	2,4-Dinitrotoluene	mg/kg	< 0.34	0.34	8270C
606-20-2	2,5-Dinitrotoluene	mg/kg	< 0.34	0.34	8270C
117-84-0	Di-n-octyl phthalate	mg/kg	< 0.34	0.34	8270C
122-66-7	1,2-Diphenylhydrazine (as Azobenzene)	mg/kg	< 0.34	0.34	8270C
206-44-0	Fluoranthene	mg/kg	< 0.34	0.34	8270C
86-73-7	Fluorene	mg/kg	< 0.34	0.34	8270C
118-74-1	Hexachlorobenzene	mg/kg	< 0.34	0.34	8270C
87-68-3	Hexachlorobutadiene	mg/kg	< 0.34	0.34	8270C
77-47-4	Hexachlorocyclopentadiene	mg/kg	< 0.34	0.34	8270C
67-72-1	Hexachloroethane	mg/kg	< 0.34	0.34	8270C
193-39-5	Indeno(1,2,3-cd)pyrene	mg/kg	< 0.34	0.34	8270C
78-59-1	Isophorone	mg/kg	< 0.34	0.34	8270C
91-20-3	Naphthalene	mg/kg	< 0.34	0.34	8270C
98-95-3	Nitrobenzene	mg/kg	< 0.34	0.34	8270C
62-75-9	N-Nitrosodimethylamine	mg/kg	< 0.34	0.34	8270C
621-64-7	N-Nitrosodi-n-propylamine	mg/kg	< 0.34	0.34	8270C
86-30-6	N-Nitrosodiphenylamine	mg/kg	< 0.34	0.34	8270C
85-01-8	Phenanthrene	mg/kg	< 0.34	0.34	8270C
129-00-0	Pyrene	mg/kg	< 0.34	0.34	8270C
120-82-1	1,2,4-Trichlorobenzene	mg/kg	< 0.34	0.34	8270C

MDL: Method Detection Limit.

Parameter	Date Analyzed/Analyst
Semi-Volatiles	06/10/08 KBR/PES

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Email: rfikes@trianglewaste.com

CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

LABORATORY QUALITY ASSURANCE/QUALITY CONTROL DATA

LABORATORY CONTROL SAMPLE (LCS) RECOVERY

Parameter	Units	True Value	Obtained Value	Recovery %	Limits (%)
Total Metals Scan					
Total Aluminum	mg/l	2.000	1.852	93	80-120
Total Antimony	mg/l	0.500	0.479	96	80-120
Total Arsenic	mg/l	0.500	0.528	105	80-120
Total Barium	mg/l	2.000	1.960	98	80-120
Total Beryllium	mg/l	0.050	0.058	115	80-120
Total Cadmium	mg/l	2.500	0.261	104	80-120
Total Chromium	mg/l	0.200	0.222	111	80-120
Total Cobalt	mg/l	0.500	0.566	113	80-120
Total Copper	mg/l	0.500	0.502	101	80-120
Total Iron	mg/l	1.000	1.100	110	80-120
Total Lead	mg/l	0.500	0.540	108	80-120
Total Manganese	mg/l	0.500	0.537	107	80-120
Total Molybdenum	mg/l	0.500	0.536	107	80-120
Total Nickel	mg/l	0.500	0.576	115	80-120
Total Selenium	mg/l	0.500	0.503	101	80-120
Total Silver	mg/l	2.500	0.244	98	80-120
Total Thallium	mg/l	0.500	0.573	115	80-120
Total Vanadium	mg/l	0.500	0.528	106	80-120
Total Zinc	mg/l	0.500	0.546	109	80-120
Total Calcium	mg/l	5.000	5.632	113	80-120
Total Magnesium	mg/l	5.000	4.746	95	80-120
Total Potassium	mg/l	5.000	4.460	89	80-120
Total Sodium	mg/l	5.000	4.440	89	80-120
Ignitability Std (p-Xylene)	°F	77	79	---	77-81
pH	pH units	7.00	6.99	---	6.99-7.10
T P H	mg/l	800	793	99	80-120
Sulfate	mg/l	8.00	6.91	86	80-120

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EPAHO106002071

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Environmental & Industrial Hygiene Services

3082 25th Street, Port Arthur, Texas 77642 • (409) 983-4575 FAX (409) 982-1522
5544 Leopard Street, Corpus Christi, Texas 78408 • (361) 299-9900 FAX (361) 299-1155
138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: *Triangle Waste Solutions*
1000 S. Business Park Drive
Port Arthur, TX 77640

Report Date: 06/11/08

Attn: *Mr. Ronnie Fikes*
Phone: 736-3600 Ext. 119; Fax: 736-2572
Email: rfikes@trianglewaste.com

CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

METHOD REFERENCE/ANALYSIS DATES & ANALYSTS

Parameter	Method Reference	Date Analyzed/Analyst
Total Metals Scan		
Total Aluminum	EPA Method 6010B	06/10/08 HKR/NR
Total Antimony	EPA Method 6010B	06/10/08 HKR/NR
Total Arsenic	EPA Method 6010B	06/10/08 HKR/NR
Total Barium	EPA Method 6010B	06/10/08 HKR/NR
Total Beryllium	EPA Method 6010B	06/10/08 HKR/NR
Total Cadmium	EPA Method 6010B	06/10/08 HKR/NR
Total Chromium	EPA Method 6010B	06/10/08 HKR/NR
Total Cobalt	EPA Method 6010B	06/10/08 HKR/NR
Total Copper	EPA Method 6010B	06/10/08 HKR/NR
Total Iron	EPA Method 6010B	06/10/08 HKR/NR
Total Lead	EPA Method 6010B	06/10/08 HKR/NR
Total Manganese	EPA Method 6010B	06/10/08 HKR/NR
Total Molybdenum	EPA Method 6010B	06/10/08 HKR/NR
Total Nickel	EPA Method 6010B	06/10/08 HKR/NR
Total Selenium	EPA Method 6010B	06/10/08 HKR/NR
Total Silver	EPA Method 6010B	06/10/08 HKR/NR
Total Thallium	EPA Method 6010B	06/10/08 HKR/NR
Total Vanadium	EPA Method 6010B	06/10/08 HKR/NR
Total Zinc	EPA Method 6010B	06/10/08 HKR/NR
Total Calcium	EPA Method 6010B	06/10/08 HKR/NR
Total Magnesium	EPA Method 6010B	06/10/08 HKR/NR
Total Potassium	EPA Method 6010B	06/10/08 HKR/NR
Total Sodium	EPA Method 6010B	06/10/08 HKR/NR
Reactive Cyanide	EPA Method SW-846/7.3.3.2	06/10/08 PSL
Reactive Sulfide	EPA Method SW-846/7.3.4.2	06/10/08 PSL
Ignitability	EPA Method 1010A	06/10/08 SR
Corrosivity as pH	EPA Method 9040C	06/10/08 SR
Total Petroleum Hydrocarbons (TPH)	TCEQ Method 1005 (Rev. 03)	06/10/08 TRS/SSR
Sulfate	EPA Method 300	06/11/08 KBR/PPS

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138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2126

Client: **Triangle Waste Solutions**
1000 S. Business Park Drive
Port Arthur, TX 77640

Report Date: 06/11/08

Attn: **Mr. Ronnie Fikes**
Phone: 736-3600 Ext. 119; Fax: 736-2572
Email: rfikes@trianglewaste.com

CHEMTEX FILE #: P8060260

AIHA Laboratory # 101478

nelap certificate # T104704239-08-TX

LABORATORY QUALITY ASSURANCE/QUALITY CONTROL DATA

PERCENT RECOVERY OF SURROGATES

COMPOUND NAME	% RECOVERY	LIMITS
Volatiles		
CHEMTEX #: P8060260		
1,2-Dichloroethane-d_4	108	70-121
Toluene-d_8	95	84-138
4-Bromofluorobenzene	99	86-120
CHEMTEX #: P8060261		
1,2-Dichloroethane-d_4	104	70-121
Toluene-d_8	81	84-138
4-Bromofluorobenzene	97	86-120
CHEMTEX #: P8060262		
1,2-Dichloroethane-d_4	107	70-121
Toluene-d_8	79	84-138
4-Bromofluorobenzene	101	86-120
Semi-Volatiles		
CHEMTEX #: P8060260		
2-Fluorophenol	35	21-100
Phenol-d_5	32	10-110
Nitrobenzene-d_5	34	35-114
2-Fluorobiphenyl	47	43-116
2,4,6-Tribromophenol	49	10-123
Terphenyl-d_{14}	74	33-141
CHEMTEX #: P8060261		
2-Fluorophenol	34	21-100
Phenol-d_5	31	10-110
Nitrobenzene-d_5	39	35-114
2-Fluorobiphenyl	53	43-116
2,4,6-Tribromophenol	45	10-123
Terphenyl-d_{14}	80	33-141
CHEMTEX #: P8060262		
2-Fluorophenol	33	21-100
Phenol-d_5	31	10-110
Nitrobenzene-d_5	36	35-114
2-Fluorobiphenyl	50	43-116
2,4,6-Tribromophenol	46	10-123
Terphenyl-d_{14}	77	33-141

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5544 Leopard Street, Corpus Christi, Texas 78408 • (361) 299-9900 FAX (361) 299-1155
138 S. Cities Service Hwy., Sulphur, Louisiana 70663 • (337) 626-2121 FAX (337) 626-2120

Client: **Triangle Waste Solutions**
1000 S. Business Park Drive
Port Arthur, TX 77640

Report Date: 06/11/08

Attn: **Mr. Ronnie Fikes**
Phone: 736-3600 Ext. 119; Fax: 736-2572
Email: rfikes@trianglewaste.com

CHEMTEX FILE #: 98060260

AIHA Laboratory # 101478

nelap certificate # T104704238-08-TX

LABORATORY QUALITY ASSURANCE/QUALITY CONTROL DATA (cont'd)

LABORATORY CONTROL SAMPLE (LCS) RECOVERY

COMPOUND NAME	% RECOVERY
Volatiles	
Benzene	94
Chlorobenzene	98
1,1-Dichloroethylene	92
Toluene	94
Trichloroethylene	94
Semi-Volatiles	
Phenol	42
2-Chlorophenol	70
1,4-Dichlorobenzene	65
N-Nitrosodi-n-propylamine	72
1,2,4-Trichlorobenzene	72
4-Chloro-3-methylphenol	46
Acenaphthene	62
4-Nitrophenol	69
2,4-Dinitrotoluene	85
Pyrene	59

Dr. C. N. Reddy, Ph.D, CIH, ASP
Director

amd*/kml/CNR

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EPAHO106002074

17/24

CHEMTEX

Environmental & Industrial Hygiene Services

CHAIN OF CUSTODY RECORD

ENVIRONMENTAL

ANALYTICAL SERVICES REQUEST

3082 25th Street, Port Arthur, TX 77642

Phone #: (409) 983-4575; Fax #: (409) 982-1522

E-mail: chemtexpa@sbcglobal.net

CLIENT: Triangle Waste Solutions
ATTN: Ronnie Fickes
ADDRESS: 1000 S. Business Park Drive, Port Arthur, TX 77640
Phone #: (409) 736-3600
Fax #: (409) 736-2572
Cell #: (409) [redacted] 553-9418

BILLING CONTACT/ADDRESS (if different from above)

P. O. #:

PROJECT NO:

PROJECT:

SITE/LOCATION:

SAMPLE(S) COLLECTED BY (PRINT NAME):

Expected Turnaround Time
2-4 hr Rush ____ 24 hr Rush ____ 48 hr Rush ____
3-6 days (Overnight Turn Around) 7-14 days ____

REQUESTED ANALYSES

Sample Matrix Codes: Drinking Water DW; Groundwater GW; Liquid Waste LW; Oil(s) O; Paint Chips PC; Sand SD; Sludge SL; Soil/Solid S; Solid Waste SW; Tray Blank TB; Water W; Wipes WP; Wastewater WW

CHEMTEX #	SAMPLE IDENTIFICATION	COLLECTION Date	COLLECTION Time	Matrix	Composite/ Grab	Preservative	Sample Containers No.	Sample Containers Size (oz.)	Sample Containers Type (Glass/ Plastic)	GT	Metal Scan	RCI	TPH	Volatiles Semi volatiles
P8060260	TOP	6/10/08	9:30AM	OIL	Grab	NONE	1	32	G		X	X	X	X
P8060261	Middle	6/10/08	9:30AM	OIL	"	"	1	32	G		X	X	X	X
P8060262	BOTTOM	6/10/08	9:30AM	OIL	"	"	1	32	G		X	X	X	X

Special Remarks: Samples must be preserved on ice after sample collection and transported in ice chest.

Relinquished By:	Date/Time:	Received By:	Date/Time:
Ronnie Jeanes	6/10/08 10:00		06/10/08 10:00
Relinquished By:	Date/Time:	Received By:	Date/Time:

2008-Jun-12 03:03 PM Triangle Waste 4097362572

EPAHO106002075

2812
TIW (South main)

EPAHO106002076

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **6/5/2008**

Dear **Mike Manning**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2812

Expiration Date 6/5/2010

Producer: TIW (South Main)
Address: 12300 South Main
Houston, TX 77035

Material / Product Information

Name of Material / Product Unused low sulfur diesel from spill
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Dirty diesel from spill of unused low sulfur diesel into a dusty containment area

Color: red to clear **Odor:** diesel **pH:** na
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
level d ppe

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.

4904 Griggs Road **Houston, TX 77021**
Phone: (713) 676-1460 **Fax: (713) 676-1676**
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 **ISWR No: 30900**

SECTION 1: Material Producer Information

Company:	TIW		
Address:	12300 South Main		
City, State, Zip:	Houston, TX 77035		
Contact:	Mike Manning	**Title:**	
Phone No:	713-728-9250	**Fax No:**	713-728-4309
24/hr Phone:	713-728-9250		
U.S. EPA I.D. No:	Na		
State I.D.	Na	**SIC Code:**	

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Material / Product

Name of Material / Product: Unused low Sulphur Diesel from spill
Detailed Description of Process Generating or Producing the Material / Product: Dirty diesel from spill of unused low sulphur diesel into a dusty containment area.

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: red to clear **Odor:** Diesel

Specific Gravity (water=1): .8-.9 **Density:** 7-8 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☐ **Single-phase** ☒ **Multi-phase**

Container Type:	☒	**Drum**	☐ **Tote**	☐	**Truck**	☐	**Other (explain)**
Container Size:		55 Gal					

Frequency: ☐ **Weekly** ☒ **Monthly** ☐ **Quarterly** ☐ **Yearly**
Number of Units (containers): 2-3 **Other:** Product

Proper U.S. DOT Shipping Name: Diesel Fuel Solution

Class: 3 **UN/NA:** 1993 **PG:** III **RQ:** NA

EPAHO106002078

Flash Point	pH	N/A	N/A	Solids
>140	Na			<1 %

Oil&Grease	TOC	Zinc	Copper	Nickel
Namg/l	Namg/l	Namg/l	Namg/l	Namg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Diesel	99	%
dust, sand, etc	1	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
Level D PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
None

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
~~None~~ oxidizers

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: N/A **Date:** 06/05/08

Printed Name/Title: No Signature Required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: [signature] Date: 6-5-08 Approved Rejected Approval Number: 2812	

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$40/dm

2. **Contamination Limits (maximum limit before surcharges apply):**

Water or solids too high

3. **Surcharge Pricing:**

Should not be any

4. **Special Testing Requirements:**

% Water, % Solids

5. **Treatment and Handling Protocol:**

Should go to light ends or can be filtered into usable product

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO106002080

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

Flash

8. **Management for Product Recovered/Recycled (if applicable):**

Send to light ends or Used oils which ever is better fit. Used Oil must have flash >140

EPAHO106002081

2813
Enterprise Prod Op LLC (Wildcat Storage)

EPAHO106002082

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/10/2008**

Dear **Ed Laszcz**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2813

Expiration Date 6/10/2010

Generator: Enterprise Products Operating, LLC (North Storage)
Address: 10207 FM 1942 Attn: Rachel Wheaton
Mont Belvieu, TX 77580

Waste Information

Name of Waste: Recyclable hydrotest water
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Hydrotest water from a natural gas pipeline
Color: clea to brown **Odor:** pungent **pH:** 3-11
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

YSL

OK

MBowman

CES Environmental Services, Inc.

4904 Griggs Road Houston, **TX 77021**
Phone: **(713) 676-1460** Fax: **(713) 676-1676**
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: **30948**
U.S. EPA ID No: **TXD008950461** ISWR No: **30900**

SECTION 1: Generator Information

Company:	Enterprise Products Operating,LLC North Storage		
Address:	10207 FM 1942 Attn: Rachel Wheaton		
City, State, Zip:	Mont Belvieu, TX 77580		
Contact:	Ed Laszcz	Title:	Sr. Environmental Scientist
Phone No:	281-385-4300	Fax No:	281-385-4532
24/hr Phone:	281-385-4300		
U.S. EPA I.D. No:	TXT490013455		
State I.D.	31038	SIC Code:	

SECTION 2: **Billing** Information – ☐ Same as Above

Company:	Enterprise Products Operating, LLC		
Address:	PO Box 573		
City, State, Zip:	Mont Belvieu, TX 77580		
Contact:	Accounts Payable	Title:	
Phone No:	281-385-4200	Fax No:	

SECTION 3: General Description of the Waste

Name of Waste: Recyclable ~~Hazardous~~ Hydrotest Water
Detailed Description of Process Generating Waste: ~~Hydrotest water from a natural gas pipeline~~

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Clear to Brown Odor: Pungent

Specific Gravity **(water=1):** 1 Density: 8.34 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☒ Truck ☐ Other (explain)
Container Size: ____ ____ 5000 ____

Frequency: ☐ Weekly ☐ Monthly ☑ Quarterly ☐ Yearly
Number of Units (containers): 5 Other: ____
Texas State Waste Code No: RECYCLE
Proper U.S. DOT Shipping Name: ~~Hazardous waste liquid, n.o.s. (contains benzene),~~ Flammable liquids, nos t
Class: ~~9~~ 3 **UN/NA:** UN~~3082~~ 1993 PG: ~~II~~ III RQ: NA

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>150	3-11	<20mg/l	<20mg/l	0-2%

Oil&Grease	TOC	Zinc	Copper	Nickel
NAmg/l	NAmg/l	NAmg/l	NAmg/l	NAmg/l

SECTION 4: **Physical** and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	**Concentration** Ranges are acceptable	**Units** or %
water	95-98	%
solids (dirt, rust)	1-2	%
Gasoline	2-5	~~ppm~~ %

SECTION 5: **Safety** Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, **and/or** analysis attached to this form as part of the waste approval package.
none

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
~~None Known~~ oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☐ generator knowledge **and/or** ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Edward L Laszcz Date: 06-09-2008

Printed **Name/Title:** Edward Laszcz/ Sr. Environmental Scientist

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]

Date: 6-10-2008 (Approved) Rejected

Approval Number: 2813

EPAHO106002085

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☑ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions fiom electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up fiom petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☑ Rinse/wash waters fiom petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out fiom petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater fiom oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up fiom non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater fiom paint washes
- ☐ Wastewater fiom adhesives and/or epoxies formulation
- ☐ Wastewater fiom organic chemical product operations
- ☐ Tank clean-out fiom organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$0.17/gal ; $70/hr trans ; FSC
↓
< 5000 TOC

2. **Contamination Limits (maximum limit before surcharges apply):**

flash, phenol on water

3. **Surcharge Pricing:**

$0.03/gal in 5000 increments of TOC

4. **Special Testing Reauirements:**

TOC on water phase; pH, phenol, solids, Flash - if flash is ≥ < 140 surcharge.

5. **Treatment and Handling Protocol:**

Treat in hydrocarbon processing plant,

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☑ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

BTU

8. **Management for Product Recovered/Recycled (if applicable):**

sell recovered product in light ends market

EPAHO106002089

2814
Plastomer Technologies

EPAHO106002090

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/6/2008**

Dear **Michael Jaskowiak/Angela Brown**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2814

Expiration Date 6/6/2010

Generator: Plastomer Technologies
Address: 10633 W Little York Rd
Houston, TX 77041

Waste Information

Name of Waste: water from oil/water separator
TCEQ Waste Code #: 00112051
Container Type:
Detailed Description of Process Generating Waste:
the waste is separation of oil and water from the manufacture of teflon
Color: varies **Odor:** none **pH:** 6-8
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP
Ok

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

1/13

SECTION 1: Generator Information

Company:	Plastomer Technologies		
Address:	10633 W Little York Road		
City, State, Zip:	Houston, TX 77041		
Contact:	Pravin Patel	**Title:**	EHS Manager
Phone No:	713-983-4235	**Fax No:**	713-466-9219
24/hr Phone:	713-983-4235		
U.S. EPA I.D. No:	TXR000079170		
State I.D.		**SIC Code:**	3081, 3089

SECTION 2: Billing Information – ☐ Same as Above

Company:	Rineco Chemical		
Address:	P.O. Box 729		
City, State, Zip:	Benton, AR 72018		
Contact:	Rachael Billings	**Title:**	NF Chemist
Phone No:	8003774692	**Fax No:**	5017788505

SECTION 3: General Description of the Waste

Name of Waste: Water from oil/water separator tank
Detailed Description of Process Generating Waste: the waste is separation of oil and water from the manufacture of Teflon products

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: varies **Odor:** none

Specific Gravity (water=1): 1 **Density:** 8.34 lbs/gal

Layers: ☐ Single-phase ☒ Multi-phase

Container Type: ☐ Drum ☐ Tote ☒ Truck ☐ Other (explain)
Container Size: ____ ____ 900gal vac tanker

Frequency: ☐ Weekly ☒ Monthly ☐ Quarterly ☐ Yearly
Number of Units (containers): 3-4 **Other:** ____
Texas State Waste Code No: 00112051
Proper U.S. DOT Shipping Name: RCRA/DOT Non Regulated Material
Class: N/A **UN/NA:** N/A **PG:** N/A **RQ:** N/A

Flash Point 7140 200	**pH** 6-8	**Reactive Sulfides** N/A mg/l	**Reactive Cyanides** N/A mg/l	**Solids** 0-1 %
Oil&Grease ~~N/A~~ mg/l 7500	**TOC** 1500 mg/l	**Zinc** ~~53~~ mg/l 1440	**Copper** ~~53~~ mg/l 291	**Nickel** ~~15~~ 10 mg/l

EPAHO106002092

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Water	99	%
Oil	1	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

____ std

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.

____ analysis

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):

____ none

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☑ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Pravin Patel **Date:** 6/2/08

Printed Name/Title: Pravin Patel / EHS Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature] Additional Information: ____

Date: 6-6-08 Approved Rejected

Approval Number: 2814

EPAHO106002093

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☒ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☒ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO106002094

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☒ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO106002095

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$0.10/gal + $70/hr trans + fsc (4-hr min)

2. **Contamination Limits (maximum limit before surcharges apply):**

std per shared drive

3. **Surcharge Pricing:**

std per shared drive

4. **Special Testing Requirements:**

pH, TOC, phenol, solids; O:l

5. **Treatment and Handling Protocol:**

Decant top oil phase to Oils + take bottom water to WWTS.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☒ Subcategory B ☐ Subcategory C

EPAHO106002096

7. **Tests for Product Recovered/Recycled (if applicable):**

8. **Management for Product Recovered/Recycled (if applicable):**

EPAHO106002097

ENVIRODYNE LABORATORIES, INC. 11011 Brooklet Dr. #230 Houston, Texas 77099

June 05, 2008

Plastomer Technology
Patel Pravin
6455 Clara Ste. 300
Houston, Texas 77041

Re: **Plastomer Technology Outfall 0** COC#: **ea006010**

Dear Patel Pravin :

Envirodyne Laboratories, Inc. (ELI) received sample(s) on May 23, 2008 at 14:47 for the analysis enclosed.

The analytical data provided relates only to the sample(s) as received in this laboratory report. ELI certifies that all results are compliant to Standard Methods 1020 B and performed in accordance with the referenced method. Any exceptions are listed below and/or noted with a qualifier. Any reproductions of this laboratory report should be in full and only with the written authorization from the client.

This report contains a total of 3 pages not including the Chain of Custody.

Thank you for selecting ELI for your analytical needs. If you have questions regarding these results, please contact us at 281-568-7880.

Sincerely,

Laura Bonjonia

Laura Bonjonia
Lab Manager

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
E - Result above quantitation range
L - Analzyed by third party laboratory
B - Analyte detected in the associated Method Blank
H - Hold time exceeded
S - Spike Recovery outside accepted recovery limits
* - Refer to sample comments

EPAHO106002098

Envirodyne Laboratories, Inc.
11011 Brooklet Drive Suite 230
Houston, Texas 77099

Phone: 281-568-7880
Fax: 281-568-8004
www.envirodyne.com

Certificate of Analysis

Client Sample ID: Plastomer Technology Outfall 0
Collection Date: 05/23/2008 09:47

Lab Sample ID:AB37698
Collected by: PP

Analyses	Result	Units	RL	Qual	Method	Date Analyzed	Analyst
METALS							
Antimony	13.8	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Arsenic	<3.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Beryllium	<1.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Cadmium	<1.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Chromium	<1.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Copper	291.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Lead	<3.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Nickel	9.96	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Selenium	<5.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Silver	<1.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Thallium	<4.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Zinc	1440.0	ug/L	10.0		EPA 200.7	06/04/2008 00:00	TOB
Mercury	<0.2	ug/L	0.2	L	EPA 245.1	06/04/2008 00:00	LC
WETCHEM							
Oil and grease	<5.0	mg/l	4.0		EPA 1664A	05/30/2008 10:20	DJ

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
E - Result above quantitation range
L - Analzyed by third party laboratory
B - Analyte detected in the associated Method Blank
H - Hold time exceeded
S - Spike Recovery outside accepted recovery limits
* - Refer to sample comments

Qualifiers: ND - Not Detected at the Reporting Limit
L - Analzyed by third party laboratory
S - Spike Recovery outside accepted recovery limits
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
E - Result above quantitation range
H - Hold time exceeded
* - Refer to sample comments

Envirodyne Laboratories, Inc.
11011 Brooklet, Ste. 230
Houston, Texas 77099-3543
Phone (281)568-7880 - Fax (281)568-8004

E A006010

Page 1 Of 1

Name: Plastomer Technologies
Address: 10633 W. Little York, Bldg 3, Suit 300.
City: Houston, TX 77041
Contact: PRAVIN PATEL Phone: 713-983-4235 Fax: 713-466-9219

Analysis Request and Chain of Custody Record

Project No. | Client/Project: Water - From oil water separator tanks.

Lab ID No.	Field Sample No./ Indentification	Date & Time	Grab	Comp	Sample Container (Size/Mat'l)	Sample Type (Liquid, Sludge, etc.)	Preservative	ANALYSIS REQUESTED	pH	D.O.	Temp.	Analysis Time
A23106	Water -1	5/23/08 9:46	✓			liquid/water		oil & Grease				
A23107	water -1	5/23/08 9:47	✓			4		metals				

Samplers: (Signature) Pravin Patel

Affiliation

Relinquished by: (Signature) Date: 5/23/08 Time: 1:11Pm

Relinquished by: (Signature) Date: Time:

Relinquished by: (Signature) Date: Time:

Received by: (Signature) Date: 5-23-08 Time: 1311

Received by: (Signature) Date: Time:

Received by Lab: (Signature) Date: 5.23.08 Time: 1447

Seal Intact?

Seal Intact?

Seal Intact?

Remarks:
pravin.PATEL@plastomertech.com

FLOW:
Meter Reading:
Cl_2 Residual:
Mn Correction:
Cl_2 Corrected

Arrival Temp. 3°C

Data Resolution:

Site Representative:

Date: Time:

Laboratory No.:

EPAHO106002101

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Joy Baker
Cc: Keli Lofton, Gary Peterson

Date: 06/02/08

From: Miles Root

Lab Memo: 08-095

Subject: **Rineco Evaluation 0508-73**

A sample of water from Rineco has been evaluated for potential processing at CES. This sample, evaluation 0508-73, is the water phase from an oil-water separator. Overall, this source looks very good for processing with low impurities and no problem issues.

This sample has no solids, phenols or oil. This source also has low TOC of 1471 mg/L and acceptable metals. The water treats easily and forms typical amounts of solids that readily flock out of solution upon treating. There are no problem issues and pricing may be low enough to cover our basic costs.

The table below summarizes the analytical work done on this sample.

Rineco	
Evaluation 0508-73	
pH	6
Solids, vol%	0
Phenols, ppm	0
TOC, mg/L	1471
Oil, vol%	0
Metals	
Cd	0.156
Cr	0.558
Cu	0.666
Ni	0.516
Zn	1.671

2815
Enterprise Prod OP - Big Thicket

EPAHO106002103

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/9/2008**

Dear **John Carter**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2815

Expiration Date 6/9/2010

Generator: Enterprise Products Operating-Big Thicket Plant
Address: 5200 Hess Lane
Vidor, TX 77662

Waste Information

Name of Waste: Fibrous insulation
TCEQ Waste Code #: CESQ3191
Container Type: roll-off box
Detailed Description of Process Generating Waste:
Disassembling of tank with removal of fibrous material
Color: varies **Odor:** none **pH:** 6-8
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

BNP OK

GD

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company:	Enterprise Products Operating-Big Thicket Plant				
Address:	5200 Hess Lane				
City:	Vidor	**State:**	TX	**Zip:**	77662
Contact:	Dale Buford		**Title:**		
Phone Number:	713.824.9926		**Fax Number:**		
24/hr Phone Number:	713.676.1460				
US EPA ID No:	TXCESQG				
State ID No:	CESQ		**SIC Code:**	na	

SECTION 2: Billing Information - ☐ **Same as Above**

Company:	Enterprise Products Operating-Big Thicket Plant				
Address:	P.O. Box 4324				
City:	Houston	**State:**	TX	**Zip:**	77210-4324
Contact:	John Carter		**Title:**		
Phone Number:	(713) 824-9908		**Fax Number:**		

SECTION 3: General Description of the Waste

Name of Waste: Fiberous insulation

Detailed Description of Process Generating Waste:

Dissasambeling of tank with removal fiberous material.

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☑ Solid ☐ Filter Cake ☐ Combination

Color: Varies **Odor:** none

Specific Gravity (water=1): nana **Density:** _____ lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No

Answer "Yes" if your waste contains benzene AND if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☑ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☑ Yearly ☑ One-Time

Quantity: 6-8 roll off boxes

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☐ No
If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☐ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☐ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: CESQ3191

Proper US DOT Shipping Name: Non RCRA Non DOT ~~fibrous~~ regulated fibrous material
Class: - na UN/NA: - na PG: - na RQ: - na

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>140 200		6-8		0	mg/l	0	mg/l	100	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
0	mg/l	0	mg/l	0	mg/l	0	mg/l	<70	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Debris	95-100	%
Fiberous Material	0-5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. Analytical

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

None known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:	x
TCLP Volatiles:	x
TCLP Semi-Volatiles:	x
Reactivity:	x
Corrosivity:	x
Ignitability:	x

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Pritaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☐ YES ☑ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

***Organics Subcategory*: Subpart C**

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☐ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☑ analytical data.
I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of compostion properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Dale Burford **Date:** 6/9/08

Printed Name/Title: Dale Burford Operation Specialist

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]
Date: 6-9-08 ☑ Approved ☐ Rejected
Approval Number: 2815

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

1. Base Pricing (including freight):

$60/ Yard Trans $70/hour + Current FSC

2. Contamination Limit (maximum limit before surchages apply):

Be Sure Material Conforms to Profile

3. Surcharge Pricing:

4. Special Testing Requirements:

5. Treatment and Handling Protocol:

Redirect as Class I solids

6. Treated Wastewater Discharge Subcategory:

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY)!!!

7. Tests for Product Recovered/Recycled (if applicable):

na

8. Management for Product Recovered/Recycled (if applicable)

na

APEX PRECISION ANALYTICAL SERVICES, INC.

Date: June 3, 2008

Report: 0508-1336

This document shall be considered a duly signed copy of the results obtained from the analyses performed. All analyses are done within government guidelines and regulations.

Gary R. Simmons
Laboratory Manager

306 West Edgewood Drive, Suite D, Friendswood, TX 77546 Office (281)648-9918 Fax (281)648-9595

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
Date Received: June 2, 2008
Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-01	0508-1336-01	White,Grey / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-02	0508-1336-02	White,Grey / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-03	0508-1336-03	White,Grey / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-04	0508-1336-04A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-04B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-05	0508-1336-05A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-05B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-06	0508-1336-06A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-06B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-07	0508-1336-07A	Tan / Wrap / Fibrous / Homogeneous	None Detected	Cellulose 90%	Binder

Gary R. Simmons
Laboratory Manager

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NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

EPAHO106002112

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
Date Received: June 2, 2008
Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-07	0508-1336-07B	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-07C	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-08	0508-1336-08A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-08B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-09	0508-1336-09A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-09B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-10	0508-1336-10A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-10B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-11	0508-1336-11A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-11B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder

Gary R. Simmons
Laboratory Manager

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NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

EPAHO106002113

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
Date Received: June 2, 2008
Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-11	0508-1336-11C	Brown / Material / Fibrous / Homogeneous	None Detected	Cellulose 5%	Binder
119-12	0508-1336-12A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-12B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-13	0508-1336-13A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-13B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-14	0508-1336-14A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-14B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-15	0508-1336-15A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-15B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-16	0508-1336-16	White,Grey / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder

Gary R. Simmons
Laboratory Manager

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NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

EPAHO106002114

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
Date Received: June 2, 2008
Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-17	0508-1336-17	White,Grey / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-18	0508-1336-18	White,Grey / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-19	0508-1336-19A	Black / Mastic / Fibrous / Homogeneous	None Detected	Fibrous Glass 5%	Binder
	0508-1336-19B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-20	0508-1336-20	Silver / Material / Fibrous / Homogeneous	None Detected	Wollastonite 10%	Binder
119-21	0508-1336-21	Silver / Material / Fibrous / Homogeneous	None Detected	Wollastonite 10%	Binder
119-22	0508-1336-22	Gold / Insulation / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
119-23	0508-1336-23	Gold / Insulation / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
119-24	0508-1336-24	Pink / Insulation / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
119-25	0508-1336-25	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder

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NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
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2109 Stillwater Bay Court
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Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-26	0508-1336-26	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-27	0508-1336-27	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-28	0508-1336-28	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-29	0508-1336-29	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-30	0508-1336-30	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-31	0508-1336-31	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-32	0508-1336-32	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-33	0508-1336-33A	Tan / Wrap / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	0508-1336-33B	White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-34	0508-1336-34	Off White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder

Gary R. Simmons
Laboratory Manager

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NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

EPAHO106002116

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
Date Received: June 2, 2008
Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-35	0508-1336-35	Off White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-36	0508-1336-36A	Tan / Wrap / Fibrous / Homogeneous	None Detected	Cellulose 95%	Binder
	0508-1336-36B	Off White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-37	0508-1336-37	Off White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-38	0508-1336-38	Off White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-39	0508-1336-39	Off White / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 20% Fibrous Glass 10%	Binder
119-40	0508-1336-40	White / Insulation / Fibrous / Homogeneous	None Detected	Cellulose 5% Fibrous Glass 5% Synthetic 5%	Binder
119-41	0508-1336-41	Off White / Insulation / Fibrous / Homogeneous	None Detected	Cellulose 5% Fibrous Glass 20%	Binder
119-42	0508-1336-42	Off White / Insulation / Fibrous / Homogeneous	None Detected	Cellulose 5% Fibrous Glass 20%	Binder
119-43	0508-1336-43	White / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 50%	Binder

Gary R. Simmons
Laboratory Manager

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NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

EPAHO106002117

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
Date Received: June 2, 2008
Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-44	0508-1336-44	White / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 50%	Binder
119-45	0508-1336-45	White / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 50%	Binder
119-46	0508-1336-46	White / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 50%	Binder
119-47	0508-1336-47	White / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 50%	Binder
119-48	0508-1336-48	White / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 50%	Binder
119-49	0508-1336-49	Blue / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 5%	Binder
119-50	0508-1336-50	Blue / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 5%	Binder
119-51	0508-1336-51	Blue / Insulation / Fibrous / Homogeneous	None Detected	Synthetic 5%	Binder
119-52	0508-1336-52	Dark Green / Insulation / Fibrous / Homogeneous	None Detected	Fibrous Glass <1%	Binder
119-53	0508-1336-53A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder

Gary R. Simmons
Laboratory Manager

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NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

EPAHO106002118

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
Date Received: June 2, 2008
Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-53	0508-1336-53B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-54	0508-1336-54A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-54B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-55	0508-1336-55	Black / Mastic / Fibrous / Homogeneous	None Detected	Fibrous Glass 5%	Binder
119-56	0508-1336-56A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-56B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-57	0508-1336-57	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
119-58	0508-1336-58A	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 2%	Binder
	0508-1336-58B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-59	0508-1336-59A	White / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 5% Wollastonite 3%	Binder

Gary R. Simmons
Laboratory Manager

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NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

EPAHO106002119

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
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Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-59	0508-1336-59B	Dark Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-60	0508-1336-60A	White / Mastic / Fibrous / Homogeneous	None Detected	Fibrous Glass 3% Wollastonite 3%	Binder
	0508-1336-60B	Green / Foam Glass / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-61	0508-1336-61	Black / Mastic / Fibrous / Homogeneous	None Detected	Fibrous Glass 5%	Binder
119-62	0508-1336-62	Black / Mastic / Fibrous / Homogeneous	None Detected	Fibrous Glass 5%	Binder
119-63	0508-1336-63	Black / Mastic / Fibrous / Homogeneous	None Detected	Fibrous Glass 5%	Binder
119-64	0508-1336-64	White / Insulation / Fibrous / Homogeneous	None Detected	Fibrous Glass 3%	Binder
119-65	0508-1336-65	White / Insulation / Fibrous / Homogeneous	None Detected	Fibrous Glass 3%	Binder
119-66	0508-1336-66	White / Insulation / Fibrous / Homogeneous	None Detected	Fibrous Glass 3%	Binder
119-67	0508-1336-67	Off White,Silver / Caulking / Fibrous / Homogeneous	None Detected	Wollastonite 5%	Binder

Gary R. Simmons
Laboratory Manager

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Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-68	0508-1336-68	Off White,Silver / Caulking / Fibrous / Homogeneous	None Detected	Wollastonite 5%	Binder
119-69	0508-1336-69	Off White,Silver / Caulking / Fibrous / Homogeneous	None Detected	Wollastonite 5%	Binder
119-70	0508-1336-70	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 3%	Binder
119-71	0508-1336-71	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 3%	Binder
119-72	0508-1336-72	Black / Mastic / Fibrous / Homogeneous	None Detected	Cellulose 3%	Binder
119-73	0508-1336-73	White,Silver / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-74	0508-1336-74	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-75	0508-1336-75	White / Caulking / NonFibrous / Homogeneous	None Detected	None Detected	Binder
119-76	0508-1336-76	Silver,Black / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 5%	Binder
119-77	0508-1336-77	Silver,Black / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 5%	Binder

Gary R. Simmons
Laboratory Manager

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EPAHO106002121

APEX PRECISION ANALYTICAL SERVICES, INC.

PLM (Bulk) - Asbestos Analysis Report - Visual ID

(EPA Method 600/R-93-116 Visual Area Estimation)

Client:
All Seasons Environmental, Inc.
2109 Stillwater Bay Court
League City, Texas 77573
281-332-4448
Contact: Lewis Lowery

Report Number: 0508-1336
Report Date: June 3, 2008
Samples Collected: May 31, 2008
Date Received: June 2, 2008
Turn-around time: 24 Hours

Job ID / Site: 08-119 / Enterprise - Vidor Gas Plant, Vidor, TX

Client Sample Number	Lab Sample Number (by layer)	Color / Description / Fibrous / NonFibrous / Homogeneity	Asbestos Content Type & %	Non-Asbestos Fibrous Type & %	Matrix
119-78	0508-1336-78	Silver,Black / Mastic Wrap / Fibrous / Homogeneous	None Detected	Fibrous Glass 5%	Binder

Gary R. Simmons
Laboratory Manager

Analytical results and reports are generated by Apex Precision Analytical Services at the request of and for the exclusive use of the person or entity (client) named on such report. Result, reports or copies of same will not be released by Apex Precision Analytical Services to any third party without the written request from client. These results only repesent the materials submitted. Supporting laboratory documentation is available upon request. This report cannot be used to represent conditions at any other location, date or time and does not imply that this space is free from these or any other contaminants. No responsibility or liability is assumed for the manner in which these results are used or interpreted. This must not be used to claim product endorsement by NVLAP or any government agency of the United States. Apex Precision Analytical Services reserves the right to dispose of all samples after a period of thirty (30) days, according to all state and federal guidelines, unless otherwise specified.

NVLAP Lab Code: 200633-0 PLM **TDSHS Asbestos Lab License#: 30-0312 PLM/PCM**

All Seasons Environmental, Inc.
Environmental Consulting & Testing
Asbestos - Mold - Lead

APASI# 0508-1836

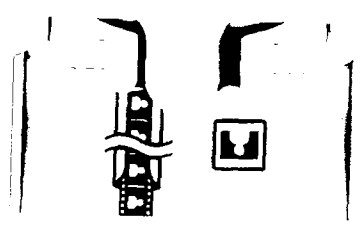
BULK SAMPLE LOG

PROJECT NO.:	08-119	DATE:	05/31/08
PROJECT NAME:	ENTERPRISE "VIDOR" GAS PLANT		
LOCATION:	VIDOR TX		
INSPECTOR:	N.L. DOWET	TDH LICENSE #	602773
ACCOMPANIED BY:	GARY LOWERY		
TURN AROUND TIME:	24HR		

SAMPLE #:	MATERIAL SAMPLED	LOCATION	% ASBESTOS
119-01	CAULK "LATEX"	DEMETHYNIZER	
119-02		SULFUR BLOCK	
119-03			
04	SULFUR BLOCK		
05			
06			
07			
08			
09			
10			
11			
12			
13			
14			
15			
16	CAULK "WHITE"	JOINTS	
17			
18			

Relinquished By:	N.L. Dowet	Date:	05/31/08	Received By:	C. Semmon	Date:	6/2/08
Relinquished By:		Date:		Received By:		Date:	0800

... Lorenz City, Texas 77573 Office: 281-332-4448 - Fax: 281-332-2334



All Seasons Environmental, Inc.
Environmental Consulting & Testing
Asbestos - Mold - Lead

0508-1336

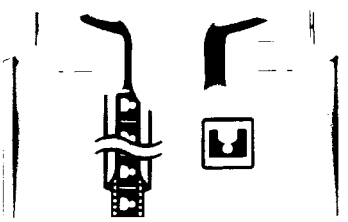
BULK SAMPLE LOG

PROJECT NO.:	08-119	DATE:	05/31/08
PROJECT NAME:	ENTERPRISE GAS		
LOCATION:	VIDOR, TX		
INSPECTOR:	Dick Doguet	TDH LICENSE #	602773
ACCOMPANIED BY:	Carry Lousier		
TURN AROUND TIME:	24 HR		

SAMPLE #:	MATERIAL SAMPLED	LOCATION	% ASBESTOS
119-19	MASTIC/METAL STRAPPING	DE METHANIZER	
119-20			
119-21			
22	~~WHITE~~ GOLD	90° AT V110	
23		BASE	
24			
25	~~GOLD~~ WHITE	90° AT ~~V120~~	
26		V120	
27			
28	WHITE	V120 BASE	
29			
30			
31	~~BASE~~ WHITE	V110	
32			
33			
34	WHITE	V110 CAP	
35			
36			
37	WHITE	V120 CAP	

Relinquished By:		Date:	05/31/08	Received By:	C. Simmons	Date:	6/1/08
Relinquished By:		Date:		Received By:		Date:	0800

2109 Stillwater Bay Ct. - League City, Texas 77573 Office: 281-332-4448 - Fax: 281-332-2334



All Seasons Environmental, Inc.
Environmental Consulting & Testing
Asbestos - Mold - Lead

BULK SAMPLE LOG

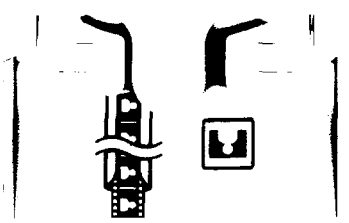
0508-1336

PROJECT NO.:	08-119	DATE:	05/31/08
PROJECT NAME:	ENTERPRISE GAS		
LOCATION:	VIDOR TX		
INSPECTOR:	NICK DOGUET	TDH LICENSE #	602773
ACCOMPANIED BY:	GARRY LOWERY		
TURN AROUND TIME:			

SAMPLE #:	MATERIAL SAMPLED	LOCATION	% ASBESTOS
38	WHITE	V120 CAP	
39	↓	↓	
40	WHITE	V F800	
41	↓	↓	
42	↓	↓	
43	FIBEROUS WHITE	1" LINE @ V120	
44	↓	↓	
45	↓	↓	
46	"A" WRAP	VESSEL F800	
47	↓	↓	
48	↓	↓	
49	~~SULFUR BLOCK~~ BLUE INSUL	LV 800 ~~FUSER~~ ~~FV420~~	
50	↓	↓	
51	↓	↓	
~~55~~ 52	SULFUR BLOCK ~~w/wrap~~	FV420	
53	↓	↓	
54	↓	↓	
55	SULFUR BLOCK W/WRAP	FV420	
56	↓	↓	

Relinquished By:	[signature]	Date:	05/31/08	Received By:	C. Simmons	Date:	6/1/08
Relinquished By:		Date:		Received By:		Date:	0800

2109 Stillwater Bay Ct. - League City, Texas 77573 Office: 281-332-4448 - Fax: 281-332-2334



All Seasons Environmental, Inc.
Environmental Consulting & Testing
Asbestos - Mold - Lead

0508-1336

BULK SAMPLE LOG

PROJECT NO.:	08-119	DATE:	05/31/08
PROJECT NAME:	ENTEX PIPELINE CO		
LOCATION:	VIDOR TX		
INSPECTOR:	NICK DOLVET	TDH LICENSE #	602273
ACCOMPANIED BY:	GARRY LOWERY		
TURN AROUND TIME:			24 HR

SAMPLE #	MATERIAL SAMPLED	LOCATION	% ASBESTOS
57	FIBERGLASS BLOCK w/ WRAP	TE-422	
58	SULFUR BLOCK	TE 1000	
59			
60			
61	BLACK MASTIC/SULFUR BLOCK	TE 444	
62			
63			
64	INSUL.	DEMETHANIZER	
65		BASE	
66			
67	CAULK	VIGO	
68			
69			
70	SULFUR BLOCK w/ MASTIC	VIGO RISER (VALVE)	
71			
72			
73	CAULK	PV 260 RISER	
74			
75			

Relinquished By:		Date:	05/31/08	Received By:	C. Simmons	Date:	06/2/08 0800
Relinquished By:		Date:		Received By:		Date:	

2109 Stillwater Bay Ct. - League City, Texas 77573 Office: 281-332-4448 - Fax: 281-332-2334

All Seasons Environmental, Inc.
Environmental Consulting & Testing
Asbestos - Mold - Lead

0508-1336

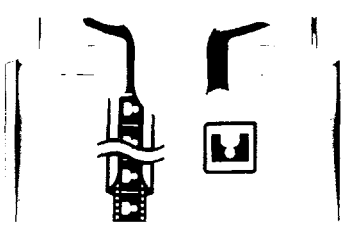
BULK SAMPLE LOG

PROJECT NO.:	08-119	DATE:	05/31/08
PROJECT NAME:	ENTERPRISE GAS		
LOCATION:	VIDOR, TX		
INSPECTOR:	NICK DeLOACH	TDH LICENSE #	60273
ACCOMPANIED BY:	GARY LOWERY		
TURN AROUND TIME:	24 HR		

SAMPLE #:	MATERIAL SAMPLED	LOCATION	% ASBESTOS
76	FOIL WRAP W/SULFUR BLOCK	RUNNER @ V-160	
77			
78			
~~79~~			
~~80~~			
~~81~~			

Relinquished By:		Date:	05/31/08	Received By:		Date:	
Relinquished By:		Date:		Received By:		Date:	

2109 Stillwater Bay Ct. - League City, Texas 77573 Office: 281-332-4448 - Fax: 281-332-2334



2817
Allied Petrochemical LLC

EPAHO106002128

TE
8-4-09
T-35
LAB

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **6/10/2008**

Dear **J.A. Kessel**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2817

Expiration Date 6/10/2010

Generator: Allied Petrochemical LLC
Address: 2330 FM 2917
Alvin, TX 77511

Waste Information

Name of Waste: Nonhazardous rinse water
TCEQ Waste Code #: 00121191
Container Type: vac box
Detailed Description of Process Generating Waste:
Rinse water from the cleaning of a tank last conining sodium hydroxide
Color: murky **Odor:** none **pH:** 6
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GP

this material is in a Vac Box. There are fast Sized Solid material in the box. Filtration would be hard. There is not a PFI attached. Handling & Price and processing needs to be addressed.

CES Environmental Services, Inc.
4904 Griggs Road, Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit Number: 30948
U.S. EPA ID Number: TXD008950461 ISWR Number: 30900

SECTION 1: Generator Information

Company: Allied Petrochemical
Address: 2330 FM 2917
City: Alvin **State:** TX **Zip:** 77511
Contact: J.A. Kessel **Title:** President
Phone Number: 281-393-1233 **Fax Number:** 281-393-1242
24/hr Phone Number:
US EPA ID No: TXR000065300
State ID No: 87747 **SIC Code:** NA

SECTION 2: Billing Information - ☑ **Same as Above**

Company:
Address:
City: **State:** **Zip:**
Contact: **Title:**
Phone Number: **Fax Number:**

Post-it® Fax Note 7671 | Date 6-6-08 | # of pages ▶ 4
To Jennifer Rist | From | Co. Allied | Phone # | Fax # 281-393-1242
Co./Dept. | Phone # | Fax # 713-676-1676

SECTION 3: General Description of the Waste

Name of Waste: Non-Hazardous Rinsewater
Detailed Description of Process Generating Waste:

Rinsewater from the cleaning of a tank that last contained Sodium Hydroxide

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Murky **Odor:** None

Specific Gravity (water=1): 1 **Density:** 8.34 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☑ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☑ No

Is the Waste subject to the benzene waste operation NESHAP? (40 CFR Part 61, Subpart FF) ☐ Yes ☑ No
Answer "Yes" if your waste contains benzene AND if the SIC code from your facility is one of the following:

2812	2813	2816	2819	2821	2822	2823	2824	2833	2834
2835	2836	2841	2842	2843	2844	2851	2861	2865	2869
2873	2874	2876	2879	2891	2892	2893	2896	2899	2911
3312	4953	4959	9511						

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☑ Other (explain)

Frequency: ☐ Weekly ☐ Monthly ☑ Yearly ☐ One-Time
Quantity: 25 yd vac box

Is this a USEPA "Hazardous Waste" per 40CFR 261.3? ☐ Yes ☑ No
If "Yes", then please complete, sign and date the Underlying Hazardous Constituents Form attached hereto

If "Yes", Is it: ☐ D001 (Ignitable) ☐ D002 (Corrosive) ☐ D003 (Reactive)
Characteristic for Toxic Metals: ☐ D004 ☐ D005 ☐ D006 ☐ D007 ☐ D008 ☐ D009 ☐ D010 ☐ D011
Characteristic for Toxic Organics: D012 thru D043 (please list all that apply)

Is this an "F" or "K" Listed waste or mixed with one? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Is this a commercial product or spill cleanup that would carry a "U" or "P" waste code under 40 CFR 261.33(e) or (f)? ☐ Yes ☑ No
If "Yes", then please list ALL applicable codes:

Texas State Waste Code Number: 00121191

Proper US DOT Shipping Name: Non-RCRA / Non DOT Regulated Rinsewater
Class: _____ **UN/NA:** _____ **PG:** _____ **RQ:** _____

Flash Point		pH		Reactive Sulfides		Reactive Cyanides		Solids	
>150 F		6		<.25	mg/l	<.25	mg/l	1-5	%
Oil & Grease		**TOC**		**Zinc**		**Copper**		**Nickel**	
N/A	mg/l	BRL	mg/l	BRL	mg/l	BRL	mg/l	BRL	mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE	CONCENTRATOIN	UNITS
The waste consists of the following materials	Ranges are acceptable	or %
Water	90-95	%
Sodium Hydroxide	2-5	%
Dirt / Sand /Silt	1-5	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data and/or analysis attached to this form as part of the waste approval package. Analytical - ID#0508-39

SECTION 7: Incompatibilities

Please list ALL incompatibilities (if any):

None Known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, **WAS NOT PERFORMED** based upon the following generator knowledge:

TCLP Metals:
TCLP Volatiles:
TCLP Semi-Volatiles:
Reactivity:
Corrosivity:
Ignitability:

SECTION 9: Waste Receipt Classification Under 40 CFR 437 (Pertaining to Pre-Treatment Requirements for Centralized Waste Treatment Facilities)

Is this material a wastewater or wastewater sludge? ☑ YES ☒ NO
If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

***Metals Subcategory*: Subpart A**

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☑ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

***Oils Subcategory*: Subpart B**

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources

- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory *: Subpart C*

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1)

If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2)

If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3)

If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

- ☑ Metals Subcategory
- ☐ Oils Subcategory
- ☐ Organics Subcategory

SECTION 10 Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine those concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

SECTION 11: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☑ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 6-6-08

Printed Name/Title: J.M. Kessel

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____
Date: 6-10-08 ☑ Approved ☐ Rejected
Approval Number: 2817

EPAHO106002134

Mercury Environmental Services, Inc.

6913 HWY 225, Deer Park, TX 77536
Phone: (281)-476-4534 Fax: (281)-476-4406

CES Environmental Services
4904 Griggs Rd
Houston, TX 77021

Phone: (713) 676-1460
Fax: (713) 676-1676

Attn: **Ryan Thomas**

- CERTIFICATE OF RESULTS -

MES Lab#: 8050484

Client Sample ID: Roll-Off Box #633
Extended ID: 0508-39 / Allied Petrochemical Alvin, TX

Sample Collect Date: 5/21/2008 @ 12:41:00 PM **Sample Type:** Grab
Sample Receipt Date: 5/21/2008 @ 12:43:00 PM

Test Group / Method

TCLP Metals (8) Method: SW-846 6010B	MDL	RL	Result	Units	Analyst: JA Date / Time
Arsenic	0.014	5	**0.042**	mg/L	5/23/2008 / 6:05 PM
Barium	0.0005	100	**0.955**	mg/L	5/23/2008 / 6:05 PM
Cadmium	0.002	1	< 0.002	mg/L	5/23/2008 / 6:05 PM
Chromium	0.002	5	**0.060**	mg/L	5/23/2008 / 6:05 PM
Lead	0.005	5	< 0.005	mg/L	5/23/2008 / 6:05 PM
Selenium	0.024	1	**0.052**	mg/L	5/23/2008 / 6:05 PM
Silver	0.002	5	< 0.002	mg/L	5/23/2008 / 6:05 PM

TCLP Mercury Method: SW-846 7470A	MDL	RL	Result	Units	Analyst: JA Date / Time
Mercury	0.0002	0.2	< 0.0002	mg/L	5/22/2008 / 5:35 PM

TCLP Volatiles Method: SW-846 8260B	MDL	RL	Result	Units	Analyst: HDG Date / Time
Vinyl chloride	0.10	0.2	< 0.10	mg/L	5/26/2008 / 7:57 PM
1,1-Dichloroethene	0.05	0.7	< 0.05	mg/L	5/26/2008 / 7:57 PM
2-Butanone	0.50	200	< 0.50	mg/L	5/26/2008 / 7:57 PM
Chloroform	0.05	6	< 0.05	mg/L	5/26/2008 / 7:57 PM
Carbon tetrachloride	0.05	0.5	< 0.05	mg/L	5/26/2008 / 7:57 PM
1,2-Dichloroethane	0.05	0.5	< 0.05	mg/L	5/26/2008 / 7:57 PM
Benzene	0.05	0.5	**0.13**	mg/L	5/26/2008 / 7:57 PM
Trichloroethene	0.05	0.5	< 0.05	mg/L	5/26/2008 / 7:57 PM
Tetrachloroethene	0.05	0.7	< 0.05	mg/L	5/26/2008 / 7:57 PM
Chlorobenzene	0.05	100	< 0.05	mg/L	5/26/2008 / 7:57 PM
1,4-Dichlorobenzene	0.05	7.5	< 0.05	mg/L	5/26/2008 / 7:57 PM
Hexachlorobutadiene	0.05	0.5	< 0.05	mg/L	5/26/2008 / 7:57 PM

EPAHO106002135

- CERTIFICATE OF RESULTS -

MES Lab#: 8050484

Client Sample ID: Roll-Off Box #633
Extended ID: 0508-39 / Allied Petrochemical Alvin, TX

Sample Collect Date: 5/21/2008 @ 12:41:00 PM **Sample Type:** Grab
Sample Receipt Date: 5/21/2008 @ 12:43:00 PM

TCLP Sem-Volatiles Method: SW-846 8270C	MDL	RL	Result	Units	Analyst: TFR Date / Time
Pyridine	0.10	5	< 0.10	mg/L	5/26/2008 / 8:24 AM
1,4-Dichlorobenzene	0.10	7.5	< 0.10	mg/L	5/26/2008 / 8:24 AM
o Cresol	0.10	200	< 0.10	mg/L	5/26/2008 / 8:24 AM
m+p-Cresol	0.10	200	< 0.10	mg/L	5/26/2008 / 8:24 AM
Hexachloroethane	0.10	3	< 0.10	mg/L	5/26/2008 / 8:24 AM
Nitrobenzene	0.10	2	< 0.10	mg/L	5/26/2008 / 8:24 AM
Hexachlorobutadiene	0.10	0.5	< 0.10	mg/L	5/26/2008 / 8:24 AM
2,4,6-Trichlorophenol	0.10	2	< 0.10	mg/L	5/26/2008 / 8:24 AM
2,4,5-Trichlorophenol	0.10	400	< 0.10	mg/L	5/26/2008 / 8:24 AM
2,4-Dinitrotoluene	0.10	0.13	< 0.10	mg/L	5/26/2008 / 8:24 AM
Hexachlorobenzene	0.10	0.13	< 0.10	mg/L	5/26/2008 / 8:24 AM
Pentachlorophenol	1.00	100	< 1.00	mg/L	5/26/2008 / 8:24 AM

Reactivity, Recoverable Hydrogen Cyanide Method: 7.3.3.2	MDL	Result	Units	Analyst: CL Date / Time
Hydrogen Cyanide	0.25	< 0.25	mg/kg	5/22/2008 / 3:00 PM

Reactivity, Recoverable Hydrogen Sulfide Method: 7.3.4.2	MDL	Result	Units	Analyst: CL Date / Time
Hydrogen Sulfide	0.25	< 0.25	mg/kg	5/23/2008 / 9:45 AM

Corrosivity, pH Method: SW-846 9045	MDL	Result	Units	Analyst: JE Date / Time
pH		**6.00**		5/30/2008 / 9:30 AM

Ignitability Method: SW-846 1010	MDL	Result	Units	Analyst: DB Date / Time
Flashpoint		**>150**	**deg F**	5/29/2008 / 10:05 AM

Flags: H: Exceeds "High Limit" L: Below "Low Limit" RL=regulatory limit

Tuesday, June 03, 2008

John Keller, Ph.D., Lab Director **Date**

EPAHO106002136

8050484

MERCURY ENVIRONMENTAL SERVICES
QA/QC REPORT

SURROGATE SPIKE RECOVERY FOR VOLATILES	% REC
Dibromofluoromethane	111.7
Toluene-d8	96.4
4-Bromofluorobenzene	90.9

VOLATILES	MS %REC	MSD %REC	%RSD	CCV %REC	MB mg/L	LCS %REC	LCSD %REC	%RSD
Vinyl Chloride	108.2	94.6	3.4	96.1	< 0.010	107.4	106.8	0.1
1,1-Dichloroethene	99.0	91	2.1	88.4	< 0.005	100.4	98	0.6
2-Butanone	103.0	95.6	1.9	90.6	< 0.050	101.8	103.6	0.4
Chloroform	93.8	86	2.2	88.2	< 0.005	96.2	96.2	0.0
Carbon tetrachloride	107.4	94.8	3.1	96.2	< 0.005	111.4	109.2	0.5
1,2-Dichloroethane	91.4	85.8	1.6	88.8	< 0.005	94.6	93	0.4
Benzene	99.4	94	1.4	90.8	< 0.005	97.8	95.6	0.6
Trichloroethene	96.8	88.6	2.2	90.2	< 0.005	98.8	99.6	0.2
Tetrachloroethene	100.0	91.4	2.2	87.7	< 0.005	139.0	98.8	8.5
Chlorobenzene	94.2	86.2	2.2	92	< 0.005	100.4	96.6	1.0
1,4-Dichlorobenzene	89.0	78.4	3.2	88.6	< 0.005	96.6	93.6	0.8
Hexachlorobutadiene	69.0	56.4	5.0	86	< 0.005	99.4	97	0.6

SURROGATE SPIKE RECOVERY FOR SEMIVOLATILES	% REC
2-Fluorophenol	40.9
Phenol-d6	50.1
Nitrobenzene-d5	39.7
2-Fluorobiphenyl	40.8
2,4,6-Tribromophenol	62.6
p-Terphenyl-d14	42.8

SEMI-VOLATILES	MS %REC	MSD %REC	CCV %REC	MB mg/L	LCS %REC	LCSD %REC
Pyridine	40.5	49.8	84.1	< 0.05	34.4	49.6
1,4-Dichlorobenzene	38.2	45.8	113.3	< 0.05	56.2	46.6
o-Cresol	34.3	40.5	110.0	< 0.05	57.8	53.8
m+p Cresol	35.3	37.6	117.4	< 0.05	54.2	45
Hexachloroethane	52.3	39.1	115.7	< 0.05	49.6	49.1
Nitrobenzene	33.1	53.8	106.2	< 0.05	42.5	51.4
Hexachloro-1,3-butadiene	34.9	36.3	101.4	< 0.05	51	65.2
2,4,6-Trichlorophenol	39.2	40.4	101.9	< 0.05	41.8	65.6
2,4,5-Trichlorophenol	36.6	36.9	96.3	< 0.05	37.9	59.6
2,4-Dinitrotoluene	29.6	29.6	95.3	< 0.05	28.7	57.2
Hexachlorobenzene	47.6	46.6	112.6	< 0.05	54.4	46.4
Pentachlorophenol	29.1	24	65.4	< 0.5	47	41.1

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Page 2

QA/QC REPORT CONTINUED

ANALYTE	MB mg/L	LCS %REC	LCSD %REC	RPD	MS %REC	CCB mg/L	CCV %REC
Arsenic	< 0.005	93.5	94.0	0.53	101.0	< 0.005	97.6
Barium	< 0.002	96.0	97.4	1.45	100.0	< 0.002	94.2
Cadmium	< 0.004	92.0	92.0	0.00	96.8	< 0.004	96.7
Chromium	< 0.007	99.8	100.0	0.20	98.0	< 0.007	98.0
Lead	< 0.010	92.0	92.0	0.00	97.2	< 0.010	94.2
Mercury	< 0.0002	97.2	96.4	0.83	96.6	< 0.0002	98.6
Selenium	< 0.005	93.1	92.0	1.19	92.4	< 0.005	95.3
Silver	< 0.006	94.8	94.8	0.00	95.2	< 0.006	93.9

ANALYTE	STD
Flashpoint	82°F

ANALYTE	BUFFER 7.0	ORIG	DUP	RPD
pH	7.0	6.00	6.00	0.00

ANALYTE	ORIG mg/kg	DUP mg/kg	RPD
Reactivity as Hydrogen Sulfide	< 0.25	< 0.25	0.00

ANALYTE	ORIG mg/kg	DUP mg/kg	RPD	STD %REC
Reactivity as Hydrogen Cyanide	< 0.25	< 0.25	0.00	110

Key to QA Abbreviations

MS=Matrix Spike
RPD=Relative Percent Deviation
LCS=Laboratory Control Standard
CCB=Continuing Calibration Blank
MDL=Minimum Detection Limit
MSD=Matrix Spike Duplicate
MB=Method Blank
CCV=Continuing Calibration Verification
%Rec=Percent Recovery
RL=Regulatory Limit

Signature: _____ June 3, 2008
John Keller / Laboratory Director

EPAHO106002138

MES - CHAIN OF CUSTODY

Mercury Environmental Services
6913 Hwy. 225 • Deer Park, TX 77536
1-800-771-4MES
(281) 476-4534
Fax (281)-476-4406

1

COMPANY NAME: (BILL TO:) CES
COMPANY ADDRESS: 4904 Griggs Road
CITY Houston STATE TX ZIP 77021
CONTACT PERSON'S NAME: Ryan Thomas
CONTACT PERSON'S PHONE: (713)676-1460 FAX #: (713)676-1676

2

YOUR PROJECT NO.: 0508-39
YOUR P.O. #:
YOUR PROJECT NAME: Allied Petrochemical
PROJECT ADDRESS: Alvin, TX

3

YOUR SAMPLE DESCRIPTION	GRAB/COMP.	DATE	TIME	MATRIX	TCLP Metals	TCLP Volatiles	TCLP Semi-Volatiles	RCI				NUMBER OF CONTAINERS	PRESERVATIONS
Roll-off Box #633	G	5/21	12:41PM										

4 PARAMETERS FOR ANALYSIS

5 REMARKS

TURNAROUND TIME: 3 DAY

DETECTION LIMITS SPECIAL LIMITS REQUIRED
Yes No
Please circle one, if Yes, please describe below or include separate sheet detailing requirements.

Composite & test as one representative sample

6

PERSON TAKING SAMPLE SIGNATURE (a. - Print Name & b. - Sign.): Durim Tafilat
RELINQUISHED BY: (Signature)
DATE 5/21 TIME 12:42PM RECEIVED BY: (Signature)

7

RELINQUISHED BY: (Signature) DATE TIME RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature) DATE TIME RECEIVED BY: (Signature)

METHOD OF PAYMENT
SHIPPED BY: (Signature)
COURIER (Signature)
RECEIVED FOR MES BY: (Signature)
DATE 5/21/08 TIME 1243

8

Sample Remainder Disposal
☐ Return Sample Remainder To Client Via
☐ I Request Lab To Dispose Of All Sample Remainders
(Signature) (Date)

Form # MES - CCRI

WHITE & CANARY – Shipped with Sample PINK – Retained by Customer WHITE – Returned with Report

BOX # 107

TYPE OF DOCUMENTS: customer files

DOCUMENTS OF INTEREST:

- South Coast Terminals
- NOV rig solutions
- Arkema
- Socotherm
- Balfore Beaty
- GATX - Hearne
- Shell Global
- Sopus
- TSI
- Houston ISD
- ITT
- Wetland Constructor
- Hydrochem
- Groth
- County Inn + Suites
- Transmontaigne
- Davis Industries
- Clear Lake Volkswagen
- Century Asphalt
- Soltex
- Houston Plating
- Lee Cook
- WRCA
- Vetco
- Bandy + Assoc.
- KMTEX
- Bigles
- Enterprise Operating
- Sky Transportation
- SLAY Transport
- Kinder Morgan
- Murphy Oil
- Specialty Heat Treat
- YRC Logistics
- Seaflex
- Hydrochem
- Kindermorgan
- Murphy Oil
- Specialty Heat Treat
- YRC Logistics
- Seaflex
- Goodman manufacturing
- Shell
- Energy Control
- City of Victoria
- Transport
- Darco
- Lubrizol - Deer Park
- Lubrizol - Bayport
- Quiletex
- Zach System
- LaBorge
- Quiletex
- Dana Container
- Coast chemical
- PPG
- Hydril
- Enterprise
- Milstead
- Proxair

VIOLATIONS SUPPORTED: DOT RCRA SDWA OSHA

BOX SEARECH BY: [signature]

DATE SEARCHED: 12/2/09

- NOV Rosenberg
- Ovalen Development
- Machine Products
- Antex
- Seatex
- Third Coastal Industrial
- NOV Magnolia
- Shancor
- Regens
- Texmark chem
- Safety Railway
- Arrow Recycling
- M/V Princess
- Martin transport
- Ethyl Corp
- Holcomb Environ
- Dal-Tile
- Noltex
- Natl Oil Well
- Calpine
- Houston Mouri
- Dixie chem
- Quiet Flex

1 of 1

EPAHO107000001

South Coast Terminals 2600
2600

EPAHO10700002

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **1/24/2008**

Dear **Travis Perry**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2600

Expiration Date 1/24/2010

Producer: South Coast Terminals (Wallisville)
Address: 7401 Wallisville Rd.
Houston, TX 77020

Material / Product Information

Name of Material / Product Envrirofuels DFC
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Offspec product from manufacturing lube oils

Color: dark **Odor:** hydrocarbon **pH:** 3-11
Physical State:
Incompatibilities: Oxidizers
Safety Related Data/Special Handling:
standard PPE

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

matt

SECTION 1: Material Producer Information

Company:	South Coast Terminals		
Address:	7401 Wallisville Road		
City, State, Zip:	Houston,T X 77020		
Contact:	Travis Perry	**Title:**	
Phone No:	713-249-1084	**Fax No:**	
24/hr Phone:			
U.S. EPA I.D. No:	NA		
State I.D.	NA	**SIC Code:**	NA

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Material / Product

Name of Material / Product: Envirofuels DFC
Detailed Description of Process Generating or Producing the Material / Product: Offspec product from manufacturing lube oils

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Dark **Odor:** Hydrocarbon

Specific Gravity (water=1): 0.85 - 0.87 **Density:** 7.1 lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type:	☒	**Drum**	☒	**Tote**	☒	**Truck**	☐ **Other (explain)**
Container Size:		78		23		5000	

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly
Number of Units (containers): _____ **Other:** _____

Proper U.S. DOT Shipping Name: Product Non DOT regulated material (Envirofuels DFC)

Class: na **UN/NA:** na **PG:** na **RQ:** na

Flash Point >200	**pH** 3-11	**N/A**	N/A	**Solids** 0%
Oil&Grease NAmg/l	**TOC** NAmg/l	**Zinc** NAmg/l	**Copper** NAmg/l	**Nickel** NAmg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Envirofuels DFC	100	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS for Envirofuels DFC

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
oxidizers

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: N/A **Date:** 1/24/2008

Printed Name/Title: NA - per Matt Bowman

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Technical Manager: Robert Rangel

Date: 1-24-08 Approved Rejected

Approval Number: 2600

Process Facility Information: Product
Check for Ash, specific gravity, water, flash, pH
If ash is < 0.5 then ship to Allied.
If ash is > 0.5 then put in low ash black oil.
we pay $0.50/gal

Att: Matt From: Travis

Enviro Fuels 962711 WRF

MATERIAL SAFETY DATA SHEET

Prepared to U.S. OSHA, CMA, ANSI, Canadian WHMIS Standards, European Directives, Australian WorkSafe and SPRING Singapore Standards

1. PRODUCT IDENTIFICATION

TRADE NAME (AS LABELED):	**ENVIROFUELS DFC**
CHEMICAL NAME/CLASS:	Mixture of Paraffinic & Petroleum Distillates & Polyolefin Alkyleneamines
CHEMICAL FORMULA:	Not Applicable-Mixture
SYNONYMS:	DFC, Diesel Fuel Catalyzer
U.N. NUMBER:	Not Applicable
U.N. DANGEROUS GOODS CLASS/SUBSIDIARY RISK:	Not Applicable
HAZCHEM CODE (AUSTRALIA):	Not Applicable
POISONS SCHEDULE NUMBER (AUSTRALIA):	Schedule 5
PRODUCT USE:	Diesel Fuel Catalyzer
U.S. SUPPLIER/MANUFACTURER'S NAME:	**EnviroFuels LLC**
ADDRESS:	1111 Bagby, Suite 4900 Houston, TX 77002 USA
BUSINESS PHONE:	1-713-821-9600
EMAIL ADDRESS/COMPENENT PERSON FOR MSDS	C. Edward Baxter, Jr. msds@envirofuelsllc.com
EMERGENCY PHONE:	United States/Canada: 1-800/424-9300 (Chemtrec) [24-hours] International: 01-703-527-3887 (Chemtrec) [24-hours]
DATE OF PREPARATION:	July 23, 2007
DATE OF REVISION:	October 11, 2007

NOTE: ALL Canadian WHMIS, European Directive, Australian WorkSafe and Singapore SPRING required information is included in appropriate sections based on the U.S. ANSI Z400.1-2004 format. This product has been classified in accordance with the hazard criteria of the countries listed above and this MSDS contains all the information required by the Canadian Product Regulations, European Union, Australian (NOHSC:2011, 8.30-8.48) information, and Singapore SPRING required information is included.

2. HAZARD IDENTIFICATION

EU LABELING AND CLASSIFICATION: This product meets the definition of hazardous, as defined by the European Union Council Directive 67/548/EEC or subsequent Directives.

EU CLASSIFICATION: [Xn]: Harmful
EU RISK PHRASES: R: 65
EU SAFETY PHRASES: S: (2-); S: 14; S: 23; S: 24; S: 53; S: 62
EUROPEAN COMMUNITY ANNEX II HAZARD SYMBOL:

EMERGENCY OVERVIEW: Product Description: This product is clear reddish liquid with a petroleum odor. **Health Hazards:** This product may irritate skin, eyes, and other contaminated tissues. Inhalation can cause adverse effects on central nervous system. Ingestion may be harmful or fatal. Prolonged skin contact can cause defatting of skin and dermatitis. Contact with heated product can cause thermal burns. **Flammability Hazards:** This product is a Class IIIB combustible liquid. This material can burn but will not readily ignite. However, if the material is heated above the flash point it can release vapors that will ignite when exposed to ignition sources. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may ignite at temperatures below the flash point. If involved in a fire, products of thermal decomposition can include carbon and nitrogen oxides. **Reactivity Hazards:** Negligible. **Environmental Hazards:** Releases of this product may be harmful to the environment. If released on water, product may produce oil slick and prevent oxygenation of aquatic environment. **Emergency Recommendations:** Emergency responders must wear the personal protective equipment suitable for the situation to which they are responding. Fire retardant gear may be necessary.

pay .50/gal. (Includes freight)

EPAHO107000006

Hydrotreated Heavy paraffinic Distillate
polyisobutenyl tetraethylenepentamine Succinamid
Aliphatic Petroleum Distillate

3. COMPOSITION and INFORMATION ON INGREDIENTS

CHEMICAL NAME	CAS #	EINECS #	AICS Inventory Listing	% wv	EU/AUSTRALIAN CLASSIFICATION FOR COMPONENTS
Hydrotreated Heavy Paraffinic Distillate	64742-54-7	265-157-1	Listed	70-85%	NE
Polyisobutenyl Tetraethylenepentamine Succinimide	67762-72-5	Unlisted	Listed	15-25%	Hazard Classification: Not established Risk Phrases: Not established.
Aliphatic Petroleum Distillate	64742-88-7	265-191-7	Listed	5-10%	Hazard Classification: Xn (Harmful) Risk Phrases: R 65 Notes: H

See Section 15 for full text of Ingredient Risk Phrases for components. See Section 15 for inventory listing for other countries

4. FIRST-AID MEASURES

Victims of chemical exposure must be taken for medical attention if any adverse effect occurs. Remove or cover gross contamination to avoid exposure to rescuers. Rescuers should be taken for medical attention, if necessary. Take a copy of label and MSDS to health professional with victim.

SKIN EXPOSURE: If this product contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 15 minutes. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek medical attention if any adverse effect occurs/continues after flushing.

EYE EXPOSURE: If vapors or liquid from this product enter the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 15 minutes. Victim must seek medical attention if any adverse effect occurs.

INHALATION: If vapors, mists, or sprays of this product are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. **Do not use compressed oxygen in hydrocarbon atmospheres.** If adverse effect continues after removal to fresh air, seek medical attention.

INGESTION: If this product is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directly by medical personnel. Have victim rinse mouth with water or give several cupfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions, skin disorders, central nervous system conditions, or disorders involving the "Target Organs" (see Section 11, "Toxicological Information") may be aggravated by overexposure to this product.

RECOMMENDATIONS TO PHYSICIANS: Treat symptoms and eliminate overexposure. Provide oxygen, if necessary.

5. FIRE-FIGHTING MEASURES

FLASH POINT: > 100°C (> 212°F)

FLAMMABILITY LIMITS: Not established.

AUTOIGNITION: Not established for product. For the main component, Hydrotreated Heavy Paraffinic Distillate: 371°C (700°F)

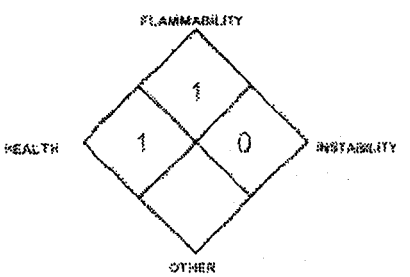
FIRE EXTINGUISHING MATERIALS: The following extinguishing materials are recommended for fires involving this product.

- Water Spray: YES (for cooling only)
- Carbon Dioxide: YES
- Foam: YES
- Dry Chemical: YES
- Halon: YES
- Other: Any "C" Class.

FIRE EXTINGUISHING MATERIALS NOT BE USED: None known.

UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is a Class IIIB combustible liquid. This material can burn but will not readily ignite. However, if the material is heated above the flash point it can release vapors that will ignite when exposed to ignition sources. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may ignite at temperatures below the flash point. When involved in a fire, this material may ignite and produce irritating vapors and toxic gases (e.g., carbon and nitrogen oxides).

NFPA RATING



Hazard Scale: 0 = Minimal 1 = Slight, 2 = Moderate
3 = Serious 4 = Severe

Explosion Sensitivity to Mechanical Impact: Not sensitive.

Explosion Sensitivity to Static Discharge: If heated, vapors of this product may be ignited by static electrical energy.

SPECIAL FIRE-FIGHTING PROCEDURES: Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Chemical resistant clothing may be necessary. Move containers from fire area if it can be done without risk to personnel. Water spray can be used to cool fire-exposed containers. Water fog or spray can also be used by trained firefighters to disperse this product's vapors and to protect personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas. Rinse contaminated equipment thoroughly with soapy water before returning such equipment to service.

EPAHO107000007

6. ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK RESPONSE: Trained personnel using pre-planned procedures should respond to uncontrolled releases. Proper protective equipment should be used. In case of a spill, clear the affected area and protect people. Eliminate all sources of ignition before cleanup begins. Use non-sparking tools. The atmosphere must have levels of components lower than those listed in Section 8, (Exposure Controls and Personal Protective Equipment), if applicable, and have at least 19.5 percent oxygen before personnel can be allowed into the area without Self-Contained Breathing Apparatus (SCBA).

Small Spills: absorb spilled liquid with clay, sand, activated carbon, polypads, or other suitable absorbent materials, wearing gloves, goggles and apron.

Large Spills: Minimum Personal Protective Equipment should be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit and boots, hard hat, and Self-Contained Breathing Apparatus.** For large spills, dike or otherwise contain spill and remove with vacuum truck or pump to storage/salvage vessels. Decontaminate the area thoroughly. Prevent material from entering sewer or confined spaces, waterways, soil or public waters. Monitor area for combustible vapor levels and confirm levels are below exposure limits given in Section 8 (Exposure Controls-Personal Protection), if applicable, and that levels are below applicable LELs (see Section 5 – Fire Fighting Measures) before non-response personnel are allowed into the spill area.

Place all spill residue in a double plastic bag or other containment and seal. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

7. HANDLING and STORAGE

SAFE WORK AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Eye wash stations or safety showers should be near areas where this product is stored or handled. Do not eat, drink, smoke, or apply cosmetics while handling this product. Avoid breathing vapors or mists generated by this product. Use in a well-ventilated location. Remove contaminated clothing immediately and launder before reuse.

STORAGE AND HANDLING PRACTICES: All employees who handle this material should be trained to handle it safely. Keep away from heat, sparks, and other sources of ignition. Keep container tightly closed when not in use. Use non-sparking tools. Bond and ground containers during transfers of material. If this product is transferred into another container, only use portable containers and dispensing equipment (faucet, pump, drip can) approved for combustible liquids. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Do not store containers above 48.9°C (120°F). Material should be stored in secondary containers or in a diked area, as appropriate. Store containers away from incompatible chemicals (see Section 10, Stability and Reactivity). Containers should be separated from oxidizing materials by a minimum distance of 20 ft. or by a barrier of non-combustible material at least 5 ft. high having a fire-resistance rating of at least 0.5 hours. Storage areas should be made of fire resistant materials. Post warning and "NO SMOKING" signs in storage and use areas, as appropriate. Have appropriate extinguishing equipment in the storage area (i.e., sprinkler system, portable fire extinguishers). Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged. Refer to NFPA 30, *Flammable and Combustible Liquids Code*, for additional information on storage. Empty containers may contain residual liquid or vapors that are flammable; therefore, empty containers should be handled with care. Never perform any welding, cutting, soldering, drilling, or other hot work on an empty container or piping until all liquid, vapors, and residue have been cleared.

SPECIFIC USE(S): This product is for use as a combustion catalyst for diesel fuels. Follow all industry standards for use of this product.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely, if necessary. Collect all rinsates and dispose of according to applicable Federal, State, and local procedures standards.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

VENTILATION, ENGINEERING AND OCCUPATIONAL EXPSOURE CONTROLS: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below. Exhaust directly to the outside, taking necessary precautions for environmental protection. If necessary, refer to Australian National Code of Practice for the Control of Workplace Hazardous Substances [NOHSC: 2007 (1994)] for further information.

OCCUPATIONAL EXPOSURE STANDARDS:

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR							
		ACGIH-TLVs		OSHA-PELs		NIOSH-RELs		NIOSH	OTHER
		TWA mg/m³	STEL mg/m³	TWA mg/m³	STEL mg/m³	TWA mg/m³	STEL mg/m³	IDLH mg/m³	mg/m³
Aliphatic Petroleum Distillate Recommended exposure limits given are for Kerosene and Stoddard Solvent	64742-88-7	Kerosene: 200 (as total hydrocarbon vapor) Stoddard Solvent: 525	NE	Stoddard Solvent: 2900 525 (vacated 1989 PEL)	NE	Kerosene: 100 Stoddard Solvent: 350	1800 ceiling: 15 min.	Stoddard Solvent 20,000	NE

NE = Not Established See Section 16 for Definitions of Terms Used

EPAHO107000008

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

OCCUPATIONAL EXPOSURE STANDARDS (continued):

CHEMICAL NAME	CAS #	EXPOSURE LIMITS IN AIR:							
		ACGIH-TLVs:		OSHA-PELs		NIOSH-RELs		NIOSH:	OTHER
		TWA mg/m³	STEL mg/m³	TWA mg/m³	STEL mg/m³	TWA mg/m³	STEL mg/m³	IDLH mg/m³	mg/m³
Polyisobutenyl Tetraethylenepentamine Succinimide	67762-72-5	NE	NE	NE	NE	NE	NE	NE	NE
Hydrotreated Heavy Paraffinic Distillate	64742-54-7	5	10	5	NE	5	10	NE	NE
Recommended exposure limits given are for Oil Mist, Mineral									

NE = Not Established See Section 16 for Definitions of Terms Used

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with regulations found in U.S. OSHA 29 CFR Subpart I (beginning at 1910.132), equivalent standards of Canada (including CSA Standard Z94.4-02 and CSA Standard Z94.3-02), standards of EU member states (including EN 529:2005 for respiratory PPE, CEN/TR 15419:2006 for hand protection, and CR 13464:1999 for face/eye protection), or standards of Australia (including AS/NZS 1715:1994 for respiratory PPE, AS/NZS 4501.2:2006 for protective clothing, AS/NZS 2161.1:2000 for glove selection, and AS/NZS 1336:1997 for eye protection). Please reference applicable regulations and standards for relevant details.

RESPIRATORY PROTECTION: If necessary, use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-02, the European Standard EN 529:2005, and EU member state standards, the Australian Standard 1716-Respiratory Protective Devices and Australian Standard 1715-Selection, Use, and Maintenance of Respiratory Protective Devices, or Singapore standards. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

EYE PROTECTION: Wear safety glasses with side shields (or goggles) and a face shield. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian CSA Standard Z94.3-02, European Standard CR 13464:1999, the Australian Standard 1337-Eye Protection for Industrial Applications and Australian Standard 1336-Recommended Practices for Eye Protection in the Industrial Environment, or Singapore standards.

HAND PROTECTION: Wear appropriate gloves to prevent protection against solvents. If material is heated, wear insulated gloves. Check gloves for leaks. Wash hands before putting on gloves and after removing gloves. If necessary, refer to U.S. OSHA 29 CFR 1910.138, appropriate Standards of Canada, the Australian Standard 2161-Industrial Safety Gloves and Mittens, the European Standard CEN/TR 15419:2006, or Singapore standards.

BODY/SKIN PROTECTION: Use body protection appropriate for task (e.g., coveralls or apron). For prolonged or repeated exposures, use impervious synthetic rubber clothing (boots, gloves, aprons, etc.) over parts of the body subject to exposure. If handling hot fluid, use insulated protective clothing (boots, gloves, aprons, etc.). If necessary, refer to appropriate Standards of Canada, the European Standard CEN/TR 15419:2006, Australian Standard 3765-Clothing for Protection Against Hazardous Chemicals, or Singapore standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136 and the Canadian CSA Standard Z195-02, *Protective Footwear*.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

9. PHYSICAL and CHEMICAL PROPERTIES

RELATIVE VAPOR DENSITY (air = 1): Not established.
EVAPORATION RATE (n-BuAc = 1): < 1
MELTING/FREEZING POINT: Not established.
BOILING POINT: Not established.
SOLUBILITY IN WATER: Insoluble.
SOLUBILITY IN SOLVENTS: Not determined.
VAPOR PRESSURE @ 20°C: < 1.0 mmHg
pH: Not determined.
OXIDIZING PROPERTIES: Not applicable.
SHOCK SENSITIVTY: Not applicable.
VISCOSITY @ 40°C: 20-28 cSt
ODOR THRESHOLD: Not established.
PERCENT VOLATILE: 90-99%.
SPECIFIC GRAVITY @ 15.56°C: 0.850-0.870 g/mL
FLASH POINT (COC): > 100°C (> 212°F)
FLAMMABILITY LIMITS: Not established for product.
POUR POINT: -30 to -40°C (-22 to -40°F)
AUTOIGNITION TEMPERATURE: For Hydrotreated Heavy Paraffinic Distillate: 371°C (700°F)
COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not established.
APPEARANCE, ODOR AND COLOR: This product is a clear reddish liquid, with a solvent odor.
HOW TO DETECT THIS SUBSTANCE (warning properties): The odor and appearance of this product may be warning an identifying property in event of an accidental release.

EPAHO107000009

10. STABILITY and REACTIVITY

DECOMPOSITION CONDITIONS/STABILITY: Stable under conditions of standard temperature and pressure.
DECOMPOSITION PRODUCTS: *Combustion:* Carbon and nitrogen. *Hydrolysis:* None known.
HAZARDOUS POLYMERIZATION: Will not occur.
MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product is incompatible with strong oxidizing agents, oxidizing agents, strong acids, and basic materials.
CONDITIONS TO AVOID: Avoid exposure to or contact with ignition sources, extreme temperatures, direct sunlight and incompatible chemicals.

11. TOXICOLOGICAL INFORMATION

IRRITANCY OF PRODUCT: The liquid or vapors of this product are moderately irritating to contaminated eyes. Inhalation and skin contact can be mildly irritating. Prolonged skin contact can cause dermatitis.

SENSITIZATION TO THE PRODUCT: No component of this product is known to be a human skin or respiratory sensitizer.

SYMPTOMS OF OVEREXPOSURE BY ROUTE OF EXPOSURE: The most significant routes of occupational overexposure are contact with the skin and eyes. The symptoms of overexposure to this product are as follows:

INHALATION: If mists or sprays of this product are inhaled, irritation of the nose, throat and respiratory tract may occur. Inhalation may also cause central nervous system depression. Symptoms can include dizziness, drowsiness, headache, nausea. Exposure to at high concentrations, such as may occur in a confined space may have the following effects: diarrhea, fatigue, convulsions, loss of consciousness.

CONTACT WITH SKIN or EYES: Depending on the duration and concentration of overexposure, eye contact with vapors may result in mild irritation. Direct eye contact with liquid or mist may cause conjunctival irritation. Contact with the skin may cause irritation of the skin, depending on duration and concentration of contact. Repeated or prolonged contact may produce defatting of the skin leading to irritation and dermatitis, with symptoms of dryness, redness and cracking. Contact with heated product may cause burns.

SKIN ABSORPTION: No component of this product is known to be absorbed via intact skin.

INGESTION: Ingestion is not anticipated to be a significant route of occupational exposure. If this product is swallowed, it may cause gastrointestinal irritation and vomiting. Symptoms such as chest and abdominal pain, nausea, vomiting, diarrhea, dizziness, faintness, drowsiness, collapse and coma may also occur. Ingestion of large amounts may cause kidney damage or be fatal. Ingestion may lead to aspiration into the lungs. Aspiration may lead to chemical pneumonitis which is characterized by pulmonary edema and hemorrhage, and may be fatal. Signs of lung involvement include increased respiration rate, increased heart rate, and a bluish discoloration of the skin. Coughing, choking, and gagging are often noted at the time of aspiration.

INJECTION: Accidental injection of this product (via cut or puncture with a contaminated object) may cause irritation in addition to the wound.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. In the event of overexposure, the following symptoms may be observed.

ACUTE: This product may moderately to severely irritate contaminated eyes. Skin contact and inhalation can cause irritation of contaminated tissues. Ingestion of this product may be harmful or fatal and may lead to aspiration into the lungs. Prolonged eye contact may cause corrosive injury.

CHRONIC: Prolonged skin contact may cause dermatitis. Components of this product are suspect carcinogens, based on animal data.

TARGET ORGANS: ACUTE: Skin, eyes, respiratory system. CHRONIC: Skin.

TOXICITY DATA: The following toxicology data are available for this product.

- LD_{50} (Oral-Rat) > 5000 mg/kg
- LD_{50} (Skin-Rat) > 2000 mg/kg
- Irritation (Skin-Rabbit) Practically non-irritating
- Irritation (Eye-Rabbit) Practically non-irritating

CARCINOGENIC INFORMAITON: The components of this product are listed by agencies tracking the carcinogenic potential of chemical compounds, as follows:

HYDROTREATED HEAVY PARAFFINIC DISTILLATE: IARC-3 (Unclassifiable as to Carcinogenicity in Humans)
ALIPHATIC PETROLEUM DISTILLATE: IARC-3 (Unclassifiable as to Carcinogenicity in Humans)

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH HAZARD	(BLUE)	1
FLAMMABILITY HAZARD	(RED)	1
PHYSICAL HAZARD	(YELLOW)	0

PROTECTIVE EQUIPMENT

EYES	RESPIRATOR	HANDS	BODY
See Section 8			

For Routine Industrial Use and Handling Applications

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

EPAHO107000010

11. TOXICOLOGICAL INFORMATION (Continued)

CARCINOGENIC INFORMAITON (continued): The remaining components of this product are not found on the following lists: U.S. EPA, U.S. NTP, U.S. OSHA, U.S. NIOSH, GERMAN MAK, IARC, and ACGIH and therefore are neither considered to be nor suspected to be cancer-causing agents by these agencies.

REPRODUCTIVE TOXICITY INFORMATION: Listed below is information concerning the effects of this product and its components (of greater than 1%) on the human reproductive system:

Mutagenicity: The components of this product are not reported to produce mutagenic effects in humans.
Embryotoxicity: The components of this product are not reported to produce embryotoxic effects in humans.
Teratogenicity: The components of this product are not reported to cause teratogenic effects in humans.
Reproductive Toxicity: The components of this product are not reported to cause reproductive effects in humans.

A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.

ACGIH BIOLOGICAL EXPOSURE INDICES: Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for the components identified of this product.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil. It is expected to be highly mobile in soil due to petroleum derivative components.

PERSISTEANCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. It is expected that some biodegradation will occur to this product; however, no specific information is known.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential. No information is available for components.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All release to terrestrial, atmospheric and aquatic environments should be avoided. The product may produce a slick if released to an aquatic environment, preventing oxygenation of the water.

OTHER ADVERSE EFFECTS: This product does not contain any component with ozone depletion potential.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Shipment of wastes must be done with appropriately permitted and registered transporters.

DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in appropriate 5-gallon or 55 gallon poly or metal waste pails or drums. Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials. Dispose of in accordance with applicable Federal, State, and local procedures and standards.

U.S. EPA WASTE NUMBER: Wastes of this product should be tested to see if they meet the criteria for waste characteristic ignitability (D001). Testing should be done, per EPA criteria to test wastes to make this determination.

EUROPEAN WASTE CODES: 13 Oil Wastes and Wastes of Liquid Fuels (except edible oils, and those in chapters 05, 12 and 19) **13 08 99*** wastes not otherwise specified.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101. Note: This product may be classified as an oil under 49CFR (DOT) Part 130 and be subject to the requirements under this part. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, the product may be subject to these requirements. Consult 49 CFR Part 130 for more information on this determination.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is not classified as dangerous goods, per the International Air Transport Association.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not classified as dangerous goods, per the International Maritime Organization.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods.

EPAHO107000011

14. TRANSPORTATION INFORMATION (Continued)

SINGAPORE STANDARD 286: PART A: This product has no requirements under the Specification for Caution Labeling for Hazardous Substances, Part 4: Marking of Packages, Containers and Vehicles, as it does not meet the criteria for any hazard class under this regulation.

15. REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: The components of this product are NOT subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA THRESHOLD PLANNING QUANTITY: The components of this product are NOT subject to specific Threshold Planning Quantities requirements. The default Federal MSDS submission and inventory requirement filing threshold of 10,000 lb (4,540 kg) may apply, per 40 CFR 370.20.

U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: No; FIRE: Yes; REACTIVE: No; SUDDEN RELEASE: No

U.S. CERCLA REPORTABLE QUANTITY (RQ): No component of this product has a CERCLA RQ. The petroleum distillate is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) petroleum exclusion. Releases to air, land, or water are not reportable under CERCLA (Superfund).

U.S. TSCA INVENTORY STATUS: The components are listed on the TSCA Inventory.

CLEAN WATER AND OIL POLLUTION ACTS: This product may be classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990. Discharge or spills that produce a visible sheen on either surface water, or in waterways/sewers that lead to surface water, must be reported to the National Response Center at 1-800-424-8802.

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): This product may contain very trace amounts of Toluene and Benzene, which are listed on the Proposition 65 lists.

ANSI LABELING (Z129.1): **WARNING!** COMBUSTIBLE LIQUID-CAN IGNITE IF EXPOSED TO FLAME OR HIGH TEMPERATURE. MAY CAUSE SKIN, AND RESPIRATORY TRACT IRRITATION. Keep away from heat, sparks, and flame. Avoid contact with oxidizers or UV light. Avoid breathing vapor or mists. Avoid contact with skin or clothing. Use only with adequate ventilation. Keep container tightly closed. Wash thoroughly after handling. Wear gloves and goggles. Use only with adequate ventilation. **FIRST-AID:** In case of contact, immediately flush skin or eyes for at least 15 minutes with large amounts of water. If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If ingested, do not induce vomiting. Get medical attention immediately. **IN CASE OF FIRE:** Use fog, foam, dry chemical or carbon dioxide. **IN CASE OF SPILL:** Absorb spill with inert material and place in suitable container. Do not allow contamination of waterways or soil. Refer to Material Safety Data Sheet for additional information on this product.

ADDITIONAL CANADIAN REGULATIONS:

CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product listed the DSL Inventory

OTHER CANADIAN REGULATIONS: Not applicable.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: The components of this product are not on the CEPA Priority Substances Lists.

CANADIAN WHMIS CLASSIFICATION and SYMBOLS:

Class B3: Combustible liquid

Class D2B: Toxic Material Causing Other Toxic Effects

EUROPEAN UNION INFORMATION FOR PRODUCT:

EU LABELING AND CLASSIFICATION: This product is classified as Harmful as defined by the European Union Council Directive 67/548/EEC or subsequent Directives.

EU CLASSIFICATION: Xn [Harmful]

EU RISK PHRASES: [R: 65]: Harmful: may cause lung damage if swallowed.

EU SAFETY PHRASES: [S: 7]: Keep container tightly closed. [S: 14]: Keep away from oxidizers. [S: 15]: Keep away from heat. [S: 23]: Do not breathe fumes or vapor. [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: 53]: Avoid exposure - obtain special instructions before use. [S: 62]: If swallowed, do not induce vomiting, seek medical advice immediately and show this container or label.

EU HAZARD SYMBOLS:

EPAHO107000012

15. REGULATORY INFORMATION (Continued)

EUROPEAN UNION INFORMATION FOR PRODUCT (continued):

CLASSIFICATION FOR COMPONENTS:

Aliphatic Petroleum Distillate:

The following classification has been published in Commission Directives.

EU CLASSIFICATION: Xn [Harmful]

EU RISK PHRASES: [R: 65]: Harmful: may cause lung damage if swallowed.

EU SAFETY PHRASES: [S: 2-]: Keep out of reach of children. [S: 23]: Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer). [S: 24]: Avoid contact with skin. [S: 62]: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

NOTES: [H]: The classification and label shown for this substance applies to the dangerous property(ies) indicated by the risk phrase(s) in combination with the category(ies) of danger shown. The requirements of Article 6 of Directive 67/548/EEC on manufacturers, distributors, and importers of this substance apply to all other aspects of classification and labelling. The final label shall follow the requirements of section 7 of Annex VI to Directive 67/548/EEC. This note applies to certain coal- and oil-derived substances and to certain entries for groups of substances in Annex I to Directive 67/548/EEC.

Polyisobutanyl Tetraethyleneopentamine Succinimide:

An official classification for this substance has not been published in Commission Directives 93/72EEC, 94/69/EC, 96/56/EC, or 98/98/EC or subsequent directives.

Hydrotreated Heavy Paraffinic Distillate:

The following classification has been published in Commission Directives.

EU SAFETY PHRASES: [S: 45]: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible) [S: 53]: Avoid exposure - obtain special instructions before use.

NOTES: [H]: The classification and label shown for this substance applies to the dangerous property(ies) indicated by the risk phrase(s) in combination with the category(ies) of danger shown. The requirements of Article 6 of Directive 67/548/EEC on manufacturers, distributors, and importers of this substance apply to all other aspects of classification and labelling. The final label shall follow the requirements of section 7 of Annex VI to Directive 67/548/EEC. This note applies to certain coal- and oil-derived substances and to certain entries for groups of substances in Annex I to Directive 67/548/EEC.

ADDITIONAL AUSTRALIAN RFEGULATIONS:

LABELING AND CLASSIFICATION: This product is classified as Harmful as defined by Australian NOHSC: 1008 (2004).

CLASSIFICATION: Xn [Harmful]

RISK PHRASES: [R: 65]: Harmful: may cause lung damage if swallowed.

SAFETY PHRASES: [S: 7]: Keep container tightly closed. [S: 14]: Keep away from oxidizers. [S: 15]: Keep away from heat. [S: 23]: Do not breathe fumes or vapor. [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: 53]: Avoid exposure - obtain special instructions before use. [S: 62]: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

HAZARD SYMBOLS:

AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES (AICS) STATUS: The components of this product are listed on the AICS as given in the table at the end of this Section.

STANDARD FOR THE UNIFORM SCHEDULING OF DRUGS AND POISONS:

SCHEDULE 5: HYDROCARBONS, LIQUID, including kerosene, diesel (distillate); mineral turpentine, white petroleum spirit, toluene, xylene and light mineral and paraffin oils (but excluding their derivatives).

ADDITIONAL LABELING INFORMATION: For advice, contact a Poisons Information Centre (Phone eg Australia 131 126; New Zealand 03 4747 000) or a doctor (at once). If swallowed, do NOT induce vomiting.

ADDITIONAL SINGAPORE REGULATIONS:

CODE OF PRACTICE ON POLLUTION CONTROL REQUIREMENTS: The components identified of this product are NOT subject to the requirements under the Singapore Code of Practice on Pollution Control.

INTERNATIONAL CHEMICAL INVENTORY SUMMARY: The components of this product listed are found on the following National Chemical Inventories:

INVENTORY NAME					
COMPONENT NAME	CAS#	U.S. TSCA	AUSTRALIAN AICS	CANADIAN DSL/NDSL	EUROPEAN EINECS/ELINCS
Aliphatic Petroleum Distillate	64742-54-7	Yes	Yes	DSL	265-157-1
Polyisobutenyl Tetraethylenepentamine Succinimide	67762-32-6	Yes	Yes	NDSL	No
Hydrotreated Heavy Paraffinic Distillate	64742-54-7	Yes	Yes	DSL	265-157-1

EPAHO107000013

16. OTHER INFORMATION

PREPARED BY:

CHEMICAL SAFETY ASSOCIATES, Inc.
PO Box 3619, La Mesa, CA 19944-3519
(800) 441-3365 (619) 670-0609

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. EnviroFuels LLC assumes no responsibility for injury to the vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, EnviroFuels LLC assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in the use of the material.

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these, which are commonly used, include the following:

CAS #: This is the Chemical Abstract Service Number that uniquely identifies each constituent.

EXPOSURE LIMITS IN AIR:

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens which have been shown to increase the mutant frequency in the progeny of exposed humans. 2: Germ cell mutagens which have been shown to increase the mutant frequency in the progeny of exposed mammals. 3A: Substances which have been shown to induce genetic damage in germ cells of human or animals, or which produce mutagenic effects in somatic cells of mammals in vivo and have been shown to reach the germ cells in an active form. 3B: Substances which are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell in vivo, in exceptional cases, substances for which there are no in vivo data, but which are clearly mutagenic in vitro and structurally related to known in vivo mutagens. 4: Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) 5: Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A-C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

IDLH-Immediately Dangerous to Life and Health: This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

MAK: *Federal Republic of Germany Maximum Concentration Values in the workplace*

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assessed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Levels

PEL-Permissible Exposure Limit: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based on the 1968 PELs and the June, 1993 Air Contaminants Rule (Federal Register 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase "Vacated 1989 PEL" is placed next to the PEL that was vacated by Court Order.

SKIN: Used when a trend is a danger of cutaneous absorption.

STEL-Short Term Exposure Limit: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8 hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV-Threshold Limit Value: An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA-Time Weighted Average: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS:

This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD:

0 (Minimal Hazard: No significant health risk; irritation of skin or eyes not anticipated. *Skin Irritation*: Essentially non-irritating. *PII or Draize* = "0". *Eye Irritation*: Essentially non-irritating, or minimal effects which clear in < 24 hours [e.g. mechanical irritation]. *Draize* = "0". *Oral Toxicity LD_{50} Rat*: > 5000 mg/kg. *Dermal Toxicity LD_{50}/Rat or Rabbit*: > 2000 mg/kg. *Inhalation Toxicity 4-hrs LC_{50} Rat*: > 20 mg/L.); 1 (Slight Hazard: Minor reversible injury may occur, slightly or mildly irritating. *Skin Irritation*: Slightly or mildly irritating. *Eye Irritation*: Slightly or mildly irritating. *Oral Toxicity LD_{50} Rat* = 500-5000 mg/kg. *Dermal Toxicity LD_{50}/Rat or Rabbit*: = 1000-2000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 2-20 mg/L.); 2 (Moderate Hazard: Temporary or transitory injury may occur. *Skin Irritation*: Moderately irritating, primary irritant; sensitizer. *PII or Draize* = 5 < 5. *Eye Irritation*: Moderately to severely irritating and/or corrosive, reversible corneal opacity, corneal involvement or irritation clearing in 8-21 days. *Draize* = 5 < 25. *Oral Toxicity LD_{50} Rat* = 50-500 mg/kg. *Dermal Toxicity LD_{50}/Rat or Rabbit* = 200-1000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: = 0.5-2 mg/L.); 3 (Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity, corrosive. *Skin Irritation*: Severely irritating and/or corrosive; may destroy dermal tissue, cause skin burns, dermal necrosis. *PII or Draize* = 5-8 with destruction of tissue.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

HEALTH HAZARD (continued):

2 (continued): *Eye Irritation*: Corrosive; reversible destruction of ocular tissue or corneal involvement or irritation persisting for more than 21 days. *Draize* = 25 with effects irreversible in 21 days. *Oral Toxicity LD_{50} Rat*: = 1-50 mg/kg. *Dermal Toxicity LD_{50}/Rat or Rabbit*: = 20-200 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: = 0.05-0.5 mg/L.); 4 (Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposure. *Skin Irritation*: Not appropriate. Do not rate as a "4", based on skin irritation alone. *Eye Irritation*: Not appropriate. Do not rate as a "4", based on eye irritation alone. *Oral Toxicity LD_{50} Rat*: < 1 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: < 20 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: < 0.05 mg/L.);

FLAMMABILITY HAZARD:

0 (Minimal Hazard-Materials that will not burn in air when exposure to a temperature of 815°C [1500°F] for a period of 5 minutes.); 1 (Slight Hazard-Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur, including: Materials that will burn in air when exposed to a temperature of 815.5°C [1500°F] for a period of 5 minutes or less. Liquids, solids and semisolids having a flash point at or above 93.3°C [200°F] (e.g. OSHA Class IIIB, or, Most ordinary combustible materials [e.g. wood, paper, etc.]; 2 (Moderate Hazard-Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres in air, including: Liquids having a flash point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres. Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp; Solids and semisolids that readily give off flammable vapors.); 3 (Serious Hazard-Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures., or, unaffected by ambient temperature, are readily ignited under almost all conditions, including: Liquids having a flash point below 22.8°C [73°F] and having a boiling point at or above 38°C [100°F] and below 37.8°C [100°F] (e.g. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids), Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides)); 4 (Severe Hazard-Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and which will burn readily, including: Flammable gases, Flammable cryogenic materials: Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C [73°F] and a boiling point below 37.8°C [100°F] (e.g. OSHA Class IA; Material that ignite spontaneously when exposed to air at a temperature of 54.4°C [130°F] or below (e.g. pyrophoric)).

PHYSICAL HAZARD:

0 (*Water Reactivity*: Materials that do not react with water. *Organic Peroxides*: Materials that are normally stable, even under fire conditions and will not react with water. *Explosives*: Substances that are *Non-Explosive*. *Unstable Compressed Gases*: No Rating. *Pyrophoric*: No Rating. *Oxidizers*: No "0" rating allowed. *Unstable Reactives*: Substances that will not polymerize, decompose, condense or self-react.); 1 (*Water Reactivity*: Materials that change or decompose upon exposure to moisture. *Organic Peroxides*: Materials that are normally stable but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy. *Explosives*: Division 1.5 & 1.6 substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases*: Pressure below OSHA definition. *Pyrophoric*: No Rating. *Oxidizers*: Packaging Group III. *Solids*: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. *Liquids*: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives*: Substances that may decompose, condense or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosive hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors.); 2 (*Water Reactivity*: Materials that may react violently with water. *Organic Peroxides*: Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives*: Division 1.4 - Explosive substances where the explosive effect is largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases*: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21°C [70°F] [900 psig]. *Pyrophoric*: No Rating. *Oxidizers*: Packing Group II. *Solids*: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. *Liquids*: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature.)

EPAHO107000014

DEFINITIONS OF TERMS (Continued)

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

PHYSICAL HAZARD (continued):

3 (*Water Reactivity*: Materials that may form explosive mixtures with water. *Organic Peroxides*: Materials that are capable of detonation or explosive reaction, but require a strong initiating source, or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives, Division 1.3* – Explosive substances that have a fire hazard and either a minor blast hazard or a minor projectile hazard or both, but do not have a mass explosion hazard. *Compressed Gases*: Pressure > 514.7 psi absolute at 21.1°C (70°F) [500 mm]. *Pyrophoric*: No Rating. *Oxidizers*: Packing Group I liquids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3:2 potassium bromate/cellulose mixture. *Oxidizers, Liquids*: Any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50% by weight)/cellulose mixture. *Unstable Reactivity*: Substances that may polymerize, decompose, condense or self-react at ambient temperature and/or pressure and have a moderate potential to cause significant heat generation or explosion.). 4 (*Water Reactivity*: Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides*: Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives, Division 1.1 & 1.2*-explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability "4". *Oxidizers*: No "4" rating. *Unstable Reactivity*: Substances that may polymerize, decompose, condense or self-react at ambient temperature and/or pressure and have a high potential to cause significant heat generation or explosion.).

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS:

HEALTH HAZARD: 0 materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors whose LC_{50} for acute inhalation toxicity is greater than 10,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is greater than 200 mg/L. Materials whose LD_{50} for acute dermal toxicity is greater than 7000 mg/kg. Materials whose LD_{50} for acute oral toxicity is greater than 2000 mg/kg. Materials that are essentially non-irritating to the respiratory tract, eyes and skin. 1 materials that, under emergency conditions, can cause significant irritation. Gases and vapors whose LC_{50} for acute inhalation toxicity is greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is greater than 10 mg/L but less than or equal to 200 mg/L. Materials whose LD_{50} for acute dermal toxicity is greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials whose LD_{50} for acute oral toxicity is greater than 500 mg/kg but less than or equal to 3500 mg/kg. Materials that cause slight to moderate irritation to the respiratory tract, eyes and skin. 2 materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases and vapors whose LC_{50} for acute inhalation toxicity is greater than 3,000 ppm but less than or equal to 5,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is greater than 2 mg/L but less than or equal to 10 mg/L. Materials whose LD_{50} for acute dermal toxicity is greater than 200 mg/kg but less than or equal to 1000 mg/kg. Materials whose LD_{50} for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. 3 materials that, under emergency conditions, can cause serious or permanent injury. Gases and vapors whose LC_{50} for acute inhalation toxicity is greater than 1,000 ppm but less than or equal to 3,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials whose LD_{50} for acute dermal toxicity is greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials whose LD_{50} for acute oral toxicity is greater than 5 mg/kg but less than or equal to 50 mg/kg. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause irreparable and irreversible tissue damage. Materials that are respiratory irritants. Cryogenic gases that cause irritation and irreversible tissue damage. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials that are corrosive to the skin. 4 materials that, under emergency conditions, can be lethal. Gases and vapors whose LC_{50} for acute inhalation toxicity less than or equal to 1,000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD_{50} for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD_{50} for acute oral toxicity is less than or equal to 5 mg/kg. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 1000 ppm.

FLAMMABILITY HAZARD: 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D. 1 Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur. Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in accordance with Annex D. Liquids, solids and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the *Method of Testing for Sustained Combustibility*, per 49 CFR 173, Appendix H of the *UN Recommendation on the Transport of Dangerous Goods, Model Regulations* (current edition) and the related *Manual of Tests and Criteria* (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85 percent by weight. Liquids that have no fire point when tested by ASTM D 92 *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*, up to a boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

FLAMMABILITY HAZARD (continued) 1 (continued): Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. Most ordinary combustible materials. 2 Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.). Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures in air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 3 Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (73°F) and below 37.8°C (100°F). (i.e. Class IB and IC liquids). Materials that, on account of their physical form or environmental conditions, can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with a representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. 4 Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air. Solids containing greater than 0.5 percent by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

INSTABILITY HAZARD: 0 Materials that in themselves are normally stable, even under fire conditions. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry. 1 Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. 2 Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 1000W/mL. 3 Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. 4 Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). Flash Point - Minimum temperature at which a liquid gives off sufficient vapors to form an ignitable mixture with air. Autoignition Temperature: The minimum temperature required to initiate combustion in air with no other source of ignition. LEL - the lowest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source. UEL - the highest percent of vapor in air, by volume, that will explode or ignite in the presence of an ignition source.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar components are presented. Definitions of some terms used in this section are: LD_{50} - Lethal Dose (solids & liquids) which kills 50% of the exposed animals; LC_{50} - Lethal Concentration (gases) which kills 50% of the exposed animals; ppm concentration expressed in parts of material per million parts of air or water; mg/m³ concentration expressed in weight of substance per volume of air; mg/kg quantity of material, by weight, administered to a test subject, based on their body weight in kg. Other measures of toxicity include TDLo, the lowest dose to cause a symptom and TCLo, the lowest concentration to cause a symptom; TDo, LDLo, and LDo, or TC, TCo, LCLo, and LCo, the lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** The sources are: IARC - the International Agency for Research on Cancer, NTP - the National Toxicology Program, RTECS - the Registry of Toxic Effects of Chemical Substances, OSHA and CALOSHA. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used.

Other Information: BEI - ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

EPAHO107000015

DEFINITIONS OF TERMS (Continued)

ECOLOGICAL INFORMATION:

EC is the effect concentration in water. **BCF** = Bioconcentration Factor, which is used to determine if a substance will concentrate in lifeforms which consume contaminated plant or animal matter. TL_m = median threshold limit. Coefficient of Oil/Water Distribution is represented by **log K_{ow}** or **log K_{oc}** and is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION:

U.S. and CANADA:

U.S. and CANADA: ACGIH: American Conference of Governmental Industrial Hygienists - a professional association which establishes exposure limits. This section explains the impact of various laws and regulations on the material. **EPA** is the U.S. Environmental Protection Agency. **NIOSH** is the National Institute of Occupational Safety and Health, which is the research arm of the U.S. Occupational Safety and Health Administration (**OSHA**). **WHMIS** is the Canadian Workplace Hazardous Materials Information System. **DOT** and **TC** are the U.S. Department of Transportation and the Transport Canada, respectively. Superfund Amendments and Reauthorization Act (**SARA**); the Canadian Domestic/Non-Domestic Substances List (**DSL/NDSL**); the U.S. Toxic Substance Control Act (**TSCA**), Marine Pollutant status according to the **DOT**; the Comprehensive Environmental Response, Compensation, and Liability Act (**CERCLA or Superfund**), and various state regulations. This section also includes information on the precautionary warnings which appear on the material's package label. **OSHA** - U.S. Occupational Safety and Health Administration.

EUROPEAN: EU is the European Union (formerly known as the **EEC**, European Economic Community). **EINECS:** This the European Inventory of Now-Existing Chemical Substances. The **ARD** is the European Agreement Concerning the International Carriage of Dangerous Goods by Road and the **RID** are the International Regulations Concerning the Carriage of Dangerous Goods by Rail. **AUSTRALIAN: AICS** is the Australian Inventory of Chemical Substances. **NOHSC:** National Occupational Health & Safety Code.

EPAHO107000016

NOV Rig Solutions 2601
2601

EPAHO107000017

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/24/2008**

Dear **Craig Taylor**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2601

Expiration Date 1/24/2010

Generator: NOV Rig Solutions Sparesand Service
Address: 5100 N. Sam Houston Pkwy W.
Houston, TX 77086

Waste Information

Name of Waste: Recyclable oily water
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Oily water from pressure washing pressure test valves
Color: varies **Odor:** none **pH:** 5-8
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
level D PPE

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

DB

SECTION 1: Generator Information

Company:	NOV Rig Solutions Sparesand Service		
Address:	5100 N. Sam Houston Pkwy W.		
City, State, Zip:	Houston, TX 77086		
Contact:	Craig Taylor	**Title:**	
Phone No:	832-309-9803	**Fax No:**	
24/hr Phone:			
U.S. EPA I.D. No:	TXCESQG		
State I.D.	CESQG	**SIC Code:**	

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Waste

Name of Waste: Recyclable Oily Water
Detailed Description of Process Generating Waste: Oily water from pressure washing pressure test valves

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: varies **Odor:** none

Specific Gravity (water=1): .9~ **Density:** 8.34 lbs/gal

Layers: ☐ **Single-phase** ☒ **Multi-phase**

Container Type:	☐	**Drum**	☐	**Tote**	☒	**Truck**	☐ **Other (explain)**
Container Size:		____		____		2-5000 g	____

Frequency: ☐ **Weekly** ☐ **Monthly** ☒ **Quarterly** ☐ **Yearly**
Number of Units (containers): 1 **Other:** ____
Texas State Waste Code No: Recyclable
Proper U.S. DOT Shipping Name: Recyclable Oily Water
Class: n/a **UN/NA:** n/a **PG:** n/a **RQ:** n/a

Flash Point >200	**pH** 5-8	**Reactive Sulfides** 0mg/l	**Reactive Cyanides** 0mg/l	**Solids** 0-3%
Oil&Grease >100mg/l	**TOC** <5000mg/l	**Zinc** 0mg/l	**Copper** 0mg/l	**Nickel** 0mg/l

EPAHO107000019

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Oil	2-5	%
Water	92-97	%
Debris, dirt, sand	0-3	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Level D PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
none

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
none

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: x
TCLP Volatiles: x
TCLP Semi-Volatiles: x
Reactivity: x
Corrosivity: x
Ignitability: x

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Craig Taylor **Date:** 1/24/08

Printed Name/Title: _____

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Thayer

Date: 1-24-08 Approved Rejected

Approval Number: 2601

Process Facility Information:
.20/gal plus trans & FSC
Chlor D test on oil phase
TOC on aquious phase
receive as oily water

EPAHO107000020

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☒ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☒ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000021

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☒ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000022

Arkema, Inc 2602
2602

EPAHO10700023

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **1/25/2008**

Dear **Grace Dean**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2602

Expiration Date 1/25/2010

Producer: Arkema, Inc.
Address: 2231 Haden Road
Houston, TX 77015

Material / Product Information

Name of Material / Product Recyclable caustic soda
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Scrubber process

Color: Clear dark amber **Odor:** strong **pH:** 14
Physical State:

Incompatibilities: Reacts violently or explosively with water, acids, and organic materials, carbon monoxide can from upon contact with food or beverage products

Safety Related Data/Special Handling:
Where there is a potential for leye contact, wear a face shield, chemical goggles, and hav eye flushing equipment available. Wear appropriate chemical resistant protective clothin and chem9ical resistant gloves to prevent skin contact. Avoid breathing

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP

JB

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Material Producer Information

Company:	Arkema Inc.		
Address:	2231 Haden Rd.		
City, State, Zip:	Houston, TX 77015		
Contact:	Grace Dean	Title:	
Phone No:	(713) 450-6746	Fax No:	
24/hr Phone:	(800) 424 9300		
U.S. EPA I.D. No:	TXD008950811		
State I.D.	30503	SIC Code:	NA

SECTION 2: Billing Information – ☐ Same as Above

Company:	Arkema Inc.		
Address:	2231 Haden Rd.		
City, State, Zip:	Houston, TX 77015		
Contact:	Brantley Moonyham	Title:	
Phone No:	(713)450-6746	Fax No:	

SECTION 3: General Description of the Material / Product

Name of Material / Product: Recycleable Caustic Soda
Detailed Description of Process Generating or Producing the Material / Product: Scrubber process

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Clear dark amber Odor: Strong

Specific Gravity (water=1): 1.090 Density: 9.08 lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☒ Truck ☐ Other (explain)
Container Size: ____ ____ 5000 gal ____

Frequency: ☒ Weekly ☐ Monthly ☐ Quarterly ☐ Yearly
Number of Units (containers): 2-3 Other: ____

Proper U.S. DOT Shipping Name: Product UN 2924 , Flammable Liquid, Corrosive, n.o.s., 3, PG II

Class: 3 UN/NA: UN 2924 PG: PG II RQ: NaOH 1000#

Flash Point 70 F→150 f	pH 14	N/A	N/A	Solids 1%
Oil&Grease 0mg/l	TOC 15000mg/l	Zinc 0mg/l	Copper 0mg/l	Nickel 0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Carbon Disulfide	<.1	%
Sodium Hydroxide	10-15	%
Water	85-90	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
Where there is a potential for eye contact, weat a face sheild, chemical googles, and have eye flushing equipmeny available. Wear apporiate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Avoid breathing vapor or mist.

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Reacts voilently or explosively with water, acids and organic materials. carbon monoxide can form upon contact with food or beverage products.

SECTION 8: Material Producer's Certification

The information contained herein is based on ☐ generator knowledge and/or ☒ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Terry Freeman **Date:** 1-24-08

Printed Name/Title: Terry Freeman / Site Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	Process Facility Information:
Technical Manager: [signature]	$1.54/gal FSC 20%
Date: 1-25-08 (Approved) Rejected	TRANS $ 400/load
Approval Number: 2602	Demurrage $70/hr

EPAHO107000026

1 PRODUCT AND COMPANY IDENTIFICATION

Thio and Fine Chemicals
Arkema Inc.
2000 Market Street
Philadelphia, PA 19103

EMERGENCY PHONE NUMBERS:
Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Customer Service	1-800-628-4453	8:30 to 5:30 EST

Product Name	Caustic Soda, Shipment Grade
Product Synonym(s)	
Chemical Family	Alkali
Chemical Formula	NAOH
Chemical Name	Sodium Hydroxide
EPA Reg Num	
Product Use	

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical %	OSHA
Carbon disulfide	75-15-0	<0.1%	Y
Sodium hydroxide	1310-73-2	10-15%	Y
Water	7732-18-5	85-90%	N

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

This material is classified as hazardous under Federal OSHA regulation.

The components of this product are all on the TSCA Inventory list.

3 HAZARDS IDENTIFICATION

Emergency Overview
Orange slightly turbid liquid with foul odor.
DANGER!
FLAMMABLE LIQUID AND VAPOR.
CAUSES EYE, SKIN AND RESPIRATORY TRACT BURNS. MAY CAUSE BLINDNESS.
CAUSES SEVERE DIGESTIVE TRACT BURNS.
EVEN DILUTE SOLUTIONS MAY CAUSE BURNS.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. This material is a strong alkali that can be destructive to tissue producing severe burns which are not immediately painful or visible. Contact with body tissues may produce deep ulceration, scarring or loss of sight. Concentrations as low as 2-3% can cause injury. Dermatitis (inflammation of the skin) and superficial skin damage can result from repeated or prolonged contact with very dilute solutions. High levels of dust or mist may be corrosive to mucous membranes producing eye or lung injury and chemical pneumonia. Lower concentrations may produce irritation of eyes, nose or upper respiratory tract with coughing, sore throat and shortness of breath. Prolonged exposure may result in ulceration of the nasal passages. If swallowed, this material may cause severe internal injury, characterized by pain in the mouth

EPAHO107000027

and stomach, vomiting, and breathing difficulties. Medical conditions which may be aggravated by exposure to this material include lung disease or limited respiratory capacity.

4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Destroy contaminated shoes.

IF SWALLOWED, do NOT induce vomiting. Give water to drink. Get medical attention immediately. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	NE	
Flash Point	70 F - >150 F	Flash Point Method
Flammable Limits- Upper	NE	
Lower	NE	

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

Contact with metal can form hydrogen gas. Hydrogen is extremely flammable and can form explosive mixtures with air. Closed containers may explode when heated or contents contaminated with water.

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Stop the leak, if possible. Ventilate the space involved. Contain, vacuum up, place in non-sparking container for disposal. Prevent waterway contamination. Construct a dike to prevent spreading. Collect run-off and transfer to drums or tanks for later disposal. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE

Handling

Do not get in eyes, on skin or clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. To avoid rapid temperature rise, violent spattering, or explosive eruptions: always add caustic to water when mixing. Never add water to a caustic when mixing. Heat water to 80-100 F before adding product. Add small amounts of product slowly and evenly over surface of water with constant stirring. Never increase concentration of product by more than 5% with any single

EPAHO107000028

7 HANDLING AND STORAGE

addition. Water should not exceed 160 F during addition.

Storage

Do NOT store near strong acids.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems. Monitor carbon monoxide and oxygen levels in tanks and enclosed spaces.

Eye / Face Protection

Where there is potential for eye contact, wear a face shield, chemical goggles, and have eye flushing equipment immediately available.

Skin Protection

Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Wear face shield and chemical resistant clothing such as a rubber apron when splashing may occur. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

Respiratory Protection

Avoid breathing vapor or mist. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

Exposure Limit		Value
Sodium hydroxide		
ACGIH CEILING	-	2 mg/m3
OSHA TWA PEL	-	2 mg/m3
Carbon disulfide		
ACGIH Skin designator	-	Y
ACGIH TWA	-	1 ppm
OSHA Ceiling PEL	-	30 ppm
OSHA TWA PEL	-	20 ppm

-Only those components with exposure limits are printed in this section.
-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.
-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

EPAHO107000029

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Orange slightly turbid liquid with foul odor.
pH	NE
Specific Gravity	1.073 @ 15 C
Vapor Pressure	30 @ 100 F
Vapor Density	NA
Melting Point	NA
Freezing Point	NE
Boiling Point	NE
Solubility In Water	99.98%

10 STABILITY AND REACTIVITY

Stability

This material is chemically stable under normal and anticipated storage and handling conditions.

Incompatibility

Reacts violently or explosively with water, acids and organic materials such as chlorinated hydrocarbons. Toxic carbon monoxide gas can form upon contact with food or beverage products.

Hazardous Decomposition Products

Will react with some metals such as aluminum, tin or zinc to generate hydrogen gas. Hydrogen gas can result in explosive hazards in confined spaces.

11 TOXICOLOGICAL INFORMATION

Toxicological Information

Data on this material and/or its components are summarized below.

Sodium Hydroxide

Single exposure (acute) studies indicate that this material is slightly toxic if absorbed through the skin (rat LD50 1,350 mg/kg; dry sodium hydroxide) and corrosive to rabbit eyes and skin. Many publications in the scientific literature confirm that this material is corrosive to all tissues. Repeated inhalation resulted in lung damage in rats. No tumors were seen in long-term animal studies. No genetic changes were observed in tests using bacteria.

No significant increases in mortality in relation to duration or intensity of exposures were reported in an epidemiologic study of a small group of workers exposed to caustic dust for 30 years or more. Massive ingestion of this material has been implicated as causing esophageal cancer. Squamous cell carcinomas of the esophagus occurred approximately 12-42 years later in individuals who survived accidental childhood ingestion and are likely due to the tissue destruction and possible scarring of the esophagus rather than a direct effect of this material.

Carbon Disulfide

Single exposure (acute) studies indicate that this material is slightly toxic to rats if swallowed (LD50 3,188 mg/kg) or rabbits if absorbed through skin (LD50 2,025 mg/kg), practically non-toxic to rats if inhaled (1-hr LC50 40 mg/l), and severely irritating to rabbit skin and eyes. The neurological effects of long-term exposure have been documented in occupational populations who were generally exposed to levels of 20 ppm or more in viscose rayon production. Exposed workers have experienced headaches, nausea, dizziness, tiredness, memory loss, sleep disturbances, irritability and other psychological symptoms in the early stages of intoxication. Long- term exposure has resulted in decreased nerve conduction velocities, memory loss,

EPAHO107000030

11 TOXICOLOGICAL INFORMATION

peripheral neuropathy (numbness) in the lower legs and forearms, tremors, poor coordination and personality disorders. In addition, several studies have shown adverse effects on the heart including increases in atherosclerosis, death from coronary or ischemic heart disease and blood pressure. Other studies have indicated that long-term overexposure can cause adverse effects on the eyes including increased hemorrhages or microaneurysms of the retina. Studies of occupationally exposed workers have suggested that long-term exposure to higher levels may cause reproductive effects. Male workers had decreased libido, reduced sperm count and altered endocrine function and female workers reported menstrual irregularities. Sperm from exposed workers have shown alterations indicative of spermatogenic damage. There is conflicting evidence whether increased pregnancy complications and a higher frequency of spontaneous abortions are related to exposures in female workers.

Animal studies have confirmed neurological effects. Rats exposed for long periods to high levels showed decreased motor conduction velocity, hindlimb motor defects, peripheral nerve swelling and degeneration. Repeated exposure of monkeys has resulted in reduced visual acuity. Following inhalation exposure in male rats, minor reproductive effects such as decreased sperm counts and abnormal mating behavior, but no pathological changes were noted in testes. A two-generation reproduction study in exposed female rats showed no reduction in fertility, but mothers exposed to high dose levels had reduced pup viability. Multiple developmental toxicity studies in rats and rabbits have presented evidence of increased birth defects and embryotoxicity at high dose levels; however, exposures at levels that are not maternally toxic generally do not cause birth defects, although developmental effects have been observed. No genetic changes were observed in tests using bacteria, but have been observed in animal cells.

12 ECOLOGICAL INFORMATION

Ecotoxicological Information

Data on this material and/or its components are summarized below.

Sodium Hydroxide
Data from several species of fish showed a range of tolerance (brook trout > spotfin and Lake Emerald shiners > minnows > mosquitofish > goldfish) that was most likely related to changes in the pH produced by addition of sodium hydroxide to the water. The minimum lethal concentration for minnows, Mayfly larvae and Daphnia was 100 ppm and for Chironomus larvae, 700 ppm.

Carbon Disulfide
This material is moderately toxic to Daphnia magna (LC50 2.1 mg/l). It is moderately toxic to guppies (LC50 4 mg/l) and slightly toxic to green algae (LC50 21 mg/l). It is practically non-toxic to mosquitofish (LC50 135 mg/l) and bacteria (LC50 341 mg/l).

Chemical Fate Information

Data on this material and/or its components are summarized below.

Sodium Hydroxide
No data were available, but this material is a strong alkali that easily dissolves in water with resulting acid/base chemistry.

EPAHO107000031

13 DISPOSAL CONSIDERATIONS

Waste Disposal

Consult with environmental engineer or professional to determine if neutralization is appropriate and for handling procedures for residual materials. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

14 TRANSPORT INFORMATION

DOT Name	Flammable Liquid, Corrosive, NOS
DOT Technical Name	(Sodium Hydroxide; Carbon Disulfide)
DOT Hazard Class	3, 8
UN Number	UN 2924
DOT Packing Group	PG II
RQ	Sodium Hydroxide 1000# (dry basis); Carbon Disulfide 100#
DOT Special Information	Subsidiary hazard: 8 Corrosive On a waste manifest, add the word "Waste"

15 REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	Y	*Fire*	Y
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

Ingredient Related Regulatory Information:

SARA Reportable Quantities	CERCLA RQ	SARA TPQ
Sodium hydroxide	1000 LBS	
Water	NE	
Carbon disulfide	100 LBS	10000 LBS

SARA Title III, Section 313

This product does contain chemical(s) which are defined as toxic chemicals under and 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. See Section 2

Carbon disulfide

SARA Title III, Section 302

This product does contain chemical(s), as indicated below, currently on the Extremly Hazardous Substance List, Section 302, SARA Title III. See Section 2 for further details regarding concentrations and registry numbers.

Carbon disulfide

California Prop 65 - Developmental Toxin

This product does contain the following chemical(s), as indicated below, currently on the California List of Developmental Toxins.

Carbon disulfide

Massachusetts Right to Know

This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

EPAHO107000032

Massachusetts Right to Know
This product does contain the following chemicals(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Carbon disulfide
Sodium hydroxide

New Jersey Right to Know
This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Carbon disulfide
Sodium hydroxide

Pennsylvania Environmental Hazard
This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

Carbon disulfide
Sodium hydroxide

Pennsylvania Right to Know
This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Carbon disulfide
Sodium hydroxide

16 OTHER INFORMATION

Revision Information

Revision Date	23 FEB 2007	Revision Number 6
Supercedes Revision Dated	07-NOV-2006	

Revision Summary
Moved from Retired to Active 03.

Key
NE= Not Established NA= Not Applicable (R) = Registered Trademark

Miscellaneous
NOTE: Toxic carbon monoxide gas can form upon contact with food and beverage products in enclosed spaces and cause death.

Arkema Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. 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 are beyond the control of Arkema Inc., Arkema Inc. expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.

EPAHO107000033

TRACK WORK SCHEDULE

Date: 11/5/2007

TRACK #3 (21745)	TRACK #2 (21744)	TRACK #1 (21743)
CAR #	Spot #1 Car # UTLX 901311 **Load** **IP** **NDM** **20 MG** Lot# Wt.	Spot #1 Car # utlx 901317 **unload** **IP** **ndm** Lot# Wt.
	Spot #2 Car # Lot# Wt.	Spot #2 Car # UTLX 901320 **load** **IP** Lot# Wt.
	Spot #3 Car # GATX 81893 **TETRAMER** **30 MG** Lot# Wt. 184,954	Spot #3 Car # CPCX 206121 **DODECENE** **30 MG** Lot# Wt. 175,350
	\ Car # **PURGE/REPAIR ONLY** Lot# Wt.	Spot #4 Car # **PURGE/REPAIR ONLY** Lot# Wt.
	Spot #5 Car # _____ **PURGE/REPAIR ONLY** Lot# Wt.	Spot #5 Car # _____ **PURGE/REPAIR ONLY** Lot# Wt.
	Spot #6 Car # _____ **PURGE ONLY**	Spot #6 Car # _____ **PURGE ONLY**

In plant: Control Room: 713-450-5870 or 713-450-5887

EMERGENCY CONTACT:
James Wheeland - Pager: 888-487-5997 / Cell: 713-304-7037
Grace Dean - Cell: 713-838-5920

LEAD

TRACK WORK SCHEDULE

Date: 11/5/2007

TRACK #3 (21745)	TRACK #2 (21744)	TRACK #1 (21743)
CAR #	Spot #1 Car # UTLX 901311 **Load** **IP** **NDM** **20 MG** Lot# Wt.	Spot #1 Car # utlx 901317 **unload** **IP** **ndm** Lot# Wt.
	Spot #2 Car # Lot# Wt.	Spot #2 Car # UTLX 901320 **load** **IP** Lot# Wt.
	Spot #3 Car # GATX 81893 **TETRAMER** **30 MG** Lot# Wt. 184,954	Spot #3 Car # CPCX 206121 **DODECENE** **30 MG** Lot# Wt. 175,350
	\ Car # **PURGE/REPAIR ONLY** Lot# Wt.	Spot #4 Car # **PURGE/REPAIR ONLY** Lot# Wt.
	Spot #5 Car # _____ **PURGE/REPAIR ONLY** Lot# Wt.	Spot #5 Car # _____ **PURGE/REPAIR ONLY** Lot# Wt.
	Spot #6 Car # _____ **PURGE ONLY**	Spot #6 Car # _____ **PURGE ONLY**

In plant: Control Room: 713-450-5870 or 713-450-5887

EMERGENCY CONTACT:
James Wheeland - Pager: 888-487-5997 / Cell: 713-304-7037
Grace Dean - Cell: 713-838-5920

LEAD

2603 Socotherm
2603

EPAHO107000036

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/30/2008**

Dear **David Fisher**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2603

Expiration Date 1/30/2010

Generator: Socotherm LaBarge, LLC
Address: 817 Shields
Channelview, TX 77530

Waste Information

Name of Waste: Non hazardous quench and cooling water
TCEQ Waste Code #: FJT71191
Container Type:
Detailed Description of Process Generating Waste:
Non-potable water used to quench and cool new carbon steel pipe. Hydraulic oil from leaking hydraulic lines may be present in very small amounts.
Color: Clear to brown **Odor:** None **pH:** 4-10
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
Level D PPE

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

Gary P approved over the phone to Dan

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	Socotherm LaBarge, LLC		
Address:	817 Shields Street		
City, State, Zip:	Channelview, TX 77530		
Contact:	David Fisher	Title:	HSE
Phone No:	713-378-7200	Fax No:	713-378-7299
24/hr Phone:	832-673-8360		
U.S. EPA I.D. No:			
State I.D.		SIC Code:	

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		Title:	
Phone No:		Fax No:	

SECTION 3: General Description of the Waste

Name of Waste: Non Hazardous Quench and Cooling water.
Detailed Description of Process Generating Waste: Non-Potable water used to quench and cool new carbon steel pipe. Hydrolic Oil from leaking hydrolic lines may be present in very small amounts.

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Clear to Brown Odor: None

Specific Gravity (water=1): 1-1.1 Density: 8.34 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☒ Truck ☐ Other (explain)
Container Size: ____ ____ 5-25000 ____

Frequency: ☐ Weekly ☒ Monthly ☐ Quarterly ☐ Yearly one-time
Number of Units (containers): 1 Other: ____
Texas State Waste Code No: EJT 71191
Proper U.S. DOT Shipping Name: Non-RCRA, Non DOT Regulated Waste Water

Class: Na UN/NA: Na PG: Na RQ: Na

EPAHO107000038

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>200	4-10	0mg/l	0mg/l	0-2%

Oil&Grease	TOC	Zinc	Copper	Nickel
0-1600mg/l	<5000mg/l	In House Testmg/l	In House Testmg/l	In House Testmg/l

SECTION 4: Physical and Chemical Data

COMPONENTS LISTED	Concentration	Units
The waste consists of the following materials	Ranges are acceptable	or %
Non-Potable Water	95-99	%
Rust, metal Sacle	0-3	%
Hydrolic Oil	0-1	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Level D PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
~~Generator Knowledge~~ None

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
None

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: D.A. Fisher **Date:** 1/29/08

Printed Name/Title: DAVID FISHER QHSE Manager

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Debbie Abercrombie

Date: 1-29-08 (Approved) Rejected

Approval Number: 2603

Texas Commission on Environmental Quality (TCEQ)
One-Time Shipment Request for Texas Waste Code
For Shipment of Hazardous and Class 1 Waste

Pursuant to the generator notification requirements of 30 Texas Administrative Code (TAC) Section 335.6, the generator of a solid waste is required to submit to TCEQ detailed written information pertaining to the composition and characteristics of the waste. Please complete all applicable sections. Incomplete forms will delay processing. Assigned waste codes cannot be changed without prior approval from TCEQ.

Generator Contact Person: David Fisher	
Generator Company Name: Southwest LaBarge, LLC	
Generator Mailing Address: 817 Shields Street Channelview, TX 77530	
Generator Phone No.: (832) 673-8360	**Generator Fax No.:** (713) 378-7279
Texas Solid Waste Registration (SWR) No. (Only if Registered) XXX12	**U.S. EPA Identification No.**
Generating Site Location: (check if same as above) ☑ Must be street address or physical description including zip code)	
Designated Treatment, Storage, and/or Disposal Facility name and address: ① CES Environmental Services, 4809 Griggs Rd, Houston, TX 77021; ② Newpark Environmental, 26400 W. Hwy 90, Winnie, TX 77665	

Only fill out System Type Code if you selected Source Code G25.

Description of Waste (Do Not Use DOT description or Trade name)	Form Code	Class Code	Origin Code	Source Code	System Type Code	EPA Waste Code
1. Quench water & cooling water from cooling the inside of New Carbon Steel Pipe	119	1	1	G09	①135 ②134	N/A
Texas Waste Code: (Assigned by TCEQ) FJT71191						
2. Neutralized Phosphate Waste water from phosphating new carbon steel pipe.	119	1	1	G09	①135 ②M151	N/A
Texas Waste Code: (Assigned by TCEQ) FJT81192						

Generator/Representative

I certify that the above information is complete and accurate to the best of my knowledge.

Signature _____ Date 1/29/08

Company Name: (If different than generator) CES Environmental Services, Inc.	
Company Mailing Address: 4809 Griggs Rd Houston, TX 77021	
Company Phone No.: (713) 954-6156	**Company Fax No.:** (713) 676-1676

Processed Date	Processed By	TCEQ Region
1/29/08	Doris P Turner	12

If you have questions on how to fill out this form or about the One-Time Shipment program, please contact us at 512/239-6413. Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.
TCEQ-0757 (Rev. 05/10/2007)

EPAHO107000040

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☒ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☒ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000041

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☒ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000042

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

.10/gal plus $69/hr Trans (FSC) <5000 TOC, up to 2% Solids

2. **Contamination Limits (maximum limit before surcharges apply):**

<5000 TOC, up to 2% Solids

3. **Surcharge Pricing:**

Call sales rep if over limits-Standard rates apply

4. **Special Testing Requirements:**

PH, TOC, Metals,

5. **Treatment and Handling Protocol:**

Standard Treatment

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☒ Subcategory B ☐ Subcategory C

EPAHO107000043

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

8. **Management for Product Recovered/Recycled (if applicable):**

EPAHO107000044

CES Environmental Services, Inc.
4904 Griggs Rd.
Houston, TX 77021
Phone: (713) 676-1460
Fax: (713 676-1676

Fax Transmittal

Total Number of Pages (Including cover sheet): 6

Date: 1/24/08

To: David Fisher

713-378-7299

From: **Dan Bowman**
CES Environmental Services, Inc.
Mobile Phone: (713) 854-6150

Notes:

Balfore Beaty 2604
2604

EPAHO10700046

Balfour Beaty
Profile # 2604

Texas Commission on Environmental Quality (TCEQ)
One-Time Shipment Request for Texas Waste Code
For Shipment of Hazardous and Class 1 Waste

Pursuant to the generator notification requirements of 30 Texas Administrative Code (TAC) Section 335.6, the generator of a solid waste is required to submit to TCEQ detailed written information pertaining to the composition and characteristics of the waste. Please complete all applicable sections. Incomplete forms will delay processing. Assigned waste codes cannot be changed without prior approval from TCEQ.

Generator Contact Person: Zac McKaughan

Generator Company Name: Balfour Beatty

Generator Mailing Address: 2834 Franz Rd, Katy, Texas 77494

Generator Phone No.: (713) 539-5098 | Generator Fax No.: ( )

Texas Solid Waste Registration (SWR) No. (Only if Registered) | U.S. EPA Identification No. (Only if you have a valid Texas SWR No.)

Generating Site Location: (check if same as above) ☑
Must be street address or physical description including zip code)

Designated Treatment, Storage, and/or Disposal Facility name and address: CES Environmental Services, 4904 Griggs Rd, Houston, Texas 77021

Description of Waste (Do Not Use DOT description or trade name)	FORM CODE	CLASS CODE	EPA CODE	ORIGIN CODE	TCEQ USE ONLY For Assignment of Texas Waste Code Number
1 Dirt Contaminated with Diesel	489	1	N/A	1	FJVB4891
2					
3	Source Code				
4		GD9			
5					

Generator/Representative

I certify that the above information is complete and accurate to the best of my knowledge.

Signature: _____ Date: 2/1/08

Company Name: (if different than generator) CKG Services, LLC

Company Mailing Address: 10707 Hwy Egypt Rd
Montgomery, Texas 77316

Company Phone No.: (936) 582-3662 | Company Fax No.: (936) 756-1226

Processed Date: 2/1/08 | Processed By: Doris P Turner | TCEQ Region: 12

If you have questions on how to fill out this form or about the One-Time Shipment program, please contact us at 512/239-6413. Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512/239-3282.
TCEQ-0757 (Rev. 11-2005)

TCEQ

Protecting Texas by Reducing and Preventing Pollution

FAX TRANSMITTAL

DATE: 2/1/08 NUMBER OF PAGES *(including this cover sheet)*: 2

TO:
Name: Mr. Zac McKaughan
Organization: Balfour Bratty
FAX Number: 936-756-1226

FROM: TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Name: Doris Poole Turner
Division/Region: Registration & Reporting Section
Telephone Number: (512) 239-1131
FAX Number: (512) 239-6410

NOTES:

Non-registered generators issued a "temporary" Registration are required to report shipments by submitting the Waste Shipment Summary form TCEQ-0436A. This report is to be submitted by the 25th day of the month following the shipment. A form may be obtained through the TCEQ Publications Office at 512-239-0028 or on our website at: http://www.tceq.com.

For future information, there is a new One-Time Shipment Request Form on our website at tceq.com. If you will go under Forms and Publications and then Find TCEQ forms it will ask you to enter a form number. Type in 0757 and hit submit. The form and the instructions will come up so that you can save them to your computer.

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/31/2008**

Dear **Zac or Dave**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2604

Expiration Date 1/31/2010

Generator: Balfore Beaty
Address: 2334 Franz Rd
Katy, TX 77993

Waste Information

Name of Waste: Dirt contaminated with hydrocarbon and concrete cure
TCEQ Waste Code #: CESQ4891
Container Type: vac box
Detailed Description of Process Generating Waste:
Dirt and concrete cure from conainment area
Color: brown to dark **Odor:** NONE **pH:** 7-8
Physical State:
Incompatibilities: na
Safety Related Data/Special Handling:
na

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

GP

SECTION 1: Generator Information

Company: Balfour Beaty
Address: 2334 Franz Rd
City, State, Zip: Katy, TX 77493
Contact: Jessie Title: HSE
Phone No: 713-539-5078 Fax No: 936-756-1229
24/hr Phone: 281-541-4829
U.S. EPA I.D. No: TXCCSQG
State I.D. CCSQG SIC Code: NA

SECTION 2: Billing Information – ☐ Same as Above

Company: CKG Services LLC
Address: 10707 Honea Egypt Rd
City, State, Zip: Montgomery TX 77316
Contact: Zea McKaughan Title: President
Phone No: 281-541-4829 Fax No: 936-756-1226

SECTION 3: General Description of the Waste

Name of Waste: Dirt Contaminated with Hydrocarbons + Concrete cure (cure)
Detailed Description of Process Generating Waste: Dirt & concrete cure from containment Area. Products are unused.

Physical State: ☐ Liquid ☑ Sludge ☐ Powder ☑ Solid ☐ Filter Cake ☐ Combination

Color: Brown to dark Odor: none

Specific Gravity (water=1): ~~>1~~ NA Density: NA lbs/gal

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☑ Truck ☑ Other (explain) Vac Box
Container Size: ____ ____ ____

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☑ Yearly
Number of Units (containers): 2 Other: ____
Texas State Waste Code No: CCSQG4891
Proper U.S. DOT Shipping Name: Non Haz Non Regulated Non RCRA
Class: NA UN/NA: NA PG: NA RQ: NA

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
N/A	7-8	0 mg/l	0 mg/l	% 80-100%

Oil&Grease	TOC	Zinc	Copper	Nickel
27000 mg/l	NA mg/l	NA mg/l	NA mg/l	NA mg/l

EPAHO107000050

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Dirt	80 - 100	%
Hydrocarbons (Hydrolic oils) See TCLP Benzene, VOC, SVOC	5 - 10	%
Concrete Curb	5 - 10	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

N/A

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.

N/A

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):

N/A

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: -
TCLP Volatiles: -
TCLP Semi-Volatiles: -
Reactivity: ✓
Corrosivity: ✓
Ignitability: ✓

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☑ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: [signature] **Date:** 1/22/08

Printed Name/Title: Zan McKaughn

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Compliance Officer: [signature]	Additional Information: $75/yd - Sludge
Date: 1-30-08 Approved Rejected	$85/yd - Liq.
Approval Number: 2604	Trans $69/hr + FSC / Redirect to Republic

$470/Trans for Redirect.

QC - Flash, Redirect Republic

Class 1 Sludge.

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000052

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000053

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$75/yd Sludge ; $85/yd - Liq ; $69/hr trans, FSC.
$470/trans for redirect

2. **Contamination Limits (maximum limit before surcharges apply):**

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

QC: flash, % Solids + Liquids (spin out)

5. **Treatment and Handling Protocol:**

Redirect to Republic ; Rainforrent Vac box - this requires a very fast turnaround time.
Class 1 Sludge

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO107000054

7. **Tests for Product Recovered/Recycled (if applicable):**

8. **Management for Product Recovered/Recycled (if applicable);**

A4 Scientific
www.a4scientific.com

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380
(281)292-5277
FAX: (281)292-2481

October 15, 2007

ZAC MCKAUGHAN
CKG SERVICES
10707 HONEA EGYPT RD.
MONTGOMERY, TX 77316

REFERENCE:

Project.....: BALFOUR BEATTY
Project Number.....:
Lab Episode Number.....: 8684
Date Received.....: 09/06/2007

Dear ZAC MCKAUGHAN:

Enclosed is the analytical Report for the project referenced above. The following sample(s) are included in the report.

☐0001 ☐ ☐ ☐

All the holding times were met for the tests performed on these samples. Enclosed, please find the Quality Control Summary. All quality control results for the QC batch that are applicable to the sample(s) are acceptable except as noted in the QC batch reports.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting A4 SCIENTIFIC for your laboratory needs on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely,

10/15/07

Pradeep Divvela
Quality Assurance Manager

A4 Scientific
www.a4scientific.com

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380
(281) 292-5277
(Fax): (281) 292-2481

ANALYTICAL REPORT

CLIENT PROJECT....: BALFOUR BEATTY
CLIENT PROJECT NUMBER...: _____

Prepared For:

CKG SERVICES
10707 HONEA EGYPT RD.
MONTGOMERY, TX 77316

ATTENTION: ZAC MCKAUGHAN

Date: 10/15/2007

10/15/07
Signature

LAB EPISODE NUMBER: 8684
Date Received.....: 09/06/2007
Lab Project ID....: Q061604A

Pradeep Divvela
Quality Assurance Manager
(281) 292-5277
pradeep@a4scientific.com

A4 Scientific

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380

Sample Log-In Report

Logged By: JS
Client Name: CKG SERVICES
Client Project Name: BALFOUR BEATT
ClientProject #:
P.O. No.:
Courier/No.:

Lab Project ID: Q061604A
Date Logged: 10/09/07
Date Received: 09/06/07
Time Received: 12:59

Report Date: 10/09/2007 14:10:55
Send Report To..
ZAC MCKAUGHAN
10707 HONEA EGYPT RD.

MONTGOMERY
TX 77316

CASE	SDG	Lab Sample ID	Client Sample ID	No. Cont.	Sample Matrix	Date Sampled	Time Sampled	Chain Of Custody No.	Tests Required	Date Due	Remarks
		8684.001	0001	1	SOIL	09/06/07	12:15	8684	MET_TCLP_RCRAMETALS	09/13/07	
									TCLPSVOA8270C		
									TCLPVOA8260B	09/13/07	
									TPH1005		

Instructions To Lab:

10/09/07

Lab Approval

Client Approval

EPAHO10700058

A4 Scientific

1644 Sawdust Road, Suite 505 · The Woodlands, TX 77380
(281) 292-5277 · FAX: (281) 292-2491 · www.a4scientific.com

Chain of Custody Record

CoC No. _____

Lab Project No. 8684

Client Name/Address: CKG Services

Project Manager: Zoe McKinsher

Phone Number: 281-541-4829

Send Report to: CKG Service

Project Number:

Project Name: Balfour Beatty Containment

Samplers (Signature)

PO Number

For Lab Use Only

Client Sample ID	Date	Time	Station Location	Number of Containers	Matrix	TPH	TCLP Metals	TCLP Vol	TCLP Semi			Client Remarks	Lab Sample ID
0001	9/6	12:15		1	Solid	✓	✓	✓	✓				

Relinquished by (Signature) Date / Time 9/6 12:59

Received by (Signature) Date / Time

Relinquished by (Signature) Date / Time

Received for Laboratory by (Signature) Date / Time 9/6/07 12:59

Lab Remarks: Standard

Method of Shipment:

Distribution: Original accompanies shipment; Copy to coordinator and field files

EPAHO107000059

A4 Scientific

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380

LABORATORY REPORT

TCLP VOLATILES BY GC/MS

CLIENT NAME	: CKG SERVICES	CLIENT SAMPLE ID	: 0001
PROJECT NAME	: BALFOUR BEATTY	LAB SAMPLE ID	: 8684.001
PROJECT NUMBER	:	METHOD REFERENCE	: SW846-8260B
DATE SAMPLED	: 09/06/2007	DATE RECEIVED	: 09/06/2007
SAMPLE MATRIX	: SOIL	PRINTED ON	: 10/15/2007 8:50

ANALYST	: SP	DATE ANALYZED	: 10/10/2007
DILUTION	: 1	INSTRUMENT FILE	: C2113.D
INSTRUMENT ID	: C-5973	PRE-PREP ANALYST	: SP
PURGE VOLUME	: 20 mL	TCLP PREP. DATE	: 10/09/07
TIME ANALYZED	: 12:08		

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
1,1-Dichloroethene	1.0	UG/L	ND	UG/L	
1,2-Dichloroethane	1.0	UG/L	ND	UG/L	
2-Butanone	5.0	UG/L	ND	UG/L	
Benzene	1.0	UG/L	ND	UG/L	
Carbon tetrachloride	1.0	UG/L	ND	UG/L	
Chlorobenzene	1.0	UG/L	ND	UG/L	
Chloroform	1.0	UG/L	ND	UG/L	
Tetrachloroethene	1.0	UG/L	ND	UG/L	
Trichloroethene	1.0	UG/L	ND	UG/L	
Vinyl chloride	1.0	UG/L	ND	UG/L	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
Dibromofluoromethane	10 UG/L	75 - 131	101
Toluene-d8	10 UG/L	68 - 125	97
1,2-Dichloroethane-d4	10 UG/L	62 - 139	97
4-Bromofluorobenzene	10 UG/L	75 - 125	95

A4 Scientific
1544 Sawdust Road, Suite 505
The Woodlands, TX 77380

LABORATORY REPORT

TCLP-SEMIVOLATILE ORGANICS BY GC/MS

CLIENT NAME	: CRG SERVICES	CLIENT SAMPLE ID	: 0001
PROJECT NAME	: BALFOUR BEATTY	LAB SAMPLE ID	: 8664.001
PROJECT NUMBER	:	METHOD REFERENCE	: SW846-8270C
DATE SAMPLED	: 09/06/2007	DATE RECEIVED	: 09/06/2007
SAMPLE MATRIX	: SOIL	PRINTED ON	: 10/12/2007 17:03

ANALYST	: RS	DATE ANALYZED	: 10/09/2007
DATE EXTRACTED	: 10/08/07	DILUTION	: 1
EXTRACT VOLUME	: 1 mL	INSTRUMENT FILE	: D6829.D
INSTRUMENT ID	: D-5973	PRE-PREP ANALYST	: CL
SAMPLE VOLUME	: 200 mL	TCLP PREP. DATE	: 10/05/07
TIME ANALYZED	: 17:25		

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
1,4-Dichlorobenzene	50	UG/L	ND	UG/L	
2,4,5-Trichlorophenol	120	UG/L	ND	UG/L	
2,4,6-Trichlorophenol	50	UG/L	ND	UG/L	
2,4-Dinitrotoluene	50	UG/L	ND	UG/L	
2-Methylphenol	50	UG/L	ND	UG/L	
3+4-Methylphenol	50	UG/L	ND	UG/L	
Hexachlorobenzene	50	UG/L	ND	UG/L	
Hexachlorobutadiene	50	UG/L	ND	UG/L	
Hexachloroethane	50	UG/L	ND	UG/L	
Nitrobenzene	50	UG/L	ND	UG/L	
Pentachlorophenol	120	UG/L	ND	UG/L	
Pyridine	50	UG/L	ND	UG/L	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
2,4,6-Tribromophenol	375 UG/L	10 - 123	51
2-Fluorobiphenyl	250 UG/L	43 - 116	55
2-Fluorophenol	375 UG/L	21 - 100	23
Nitrobenzene-d5	250 UG/L	35 - 114	56
Phenol-d5	375 UG/L	10 - 94	18
Terphenyl-d14	250 UG/L	33 - 141	85

A4 Scientific

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380

LABORATORY REPORT

TOTAL PETROLEUM HYDROCARBONS

CLIENT NAME	: CKG SERVICES	CLIENT SAMPLE ID	: 0001
PROJECT NAME	: BALFOUR BEATTY	LAB SAMPLE ID	: 8684.001
PROJECT NUMBER	:	METHOD REFERENCE	: TNRCC-1005
DATE SAMPLED	: 09/06/2007	DATE RECEIVED	: 09/06/2007
SAMPLE MATRIX	: SOIL	PRINTED ON	: 10/12/2007 17:20

% MOISTURE	:	ANALYST	: HC
DATE ANALYZED	: 10/09/07	DATE PREPPED	: 10/09/07
DILUTION	: 100	EXTRACT VOLUME	: 10 ML
INSTRUMENT FILE	: B14052	INSTRUMENT ID	: B-5890
SAMPLE SIZE	: 10 G	TIME ANALYZED	: 11:00

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
TPH-(>nC12-nC28)	2000	MG/KG	22500	MG/KG	
TPH-(>nC28-nC35)	2000	MG/KG	490	MG/KG	
TPH-(nC6-nC12)	2000	MG/KG	ND	MG/KG	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
o-Terphenyl	250 MG/KG	70 - 130	92
1-Chlorooctane	250 MG/KG	70 - 130	120

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LABORATORY REPORT

TCLP METALS

CLIENT NAME : CKG SERVICES
PROJECT NAME : BALFOUR BEATTY
PROJECT NUMBER :
DATE SAMPLED : 09/06/2007
SAMPLE MATRIX : SOIL

CLIENT SAMPLE ID : 0001
LAB SAMPLE ID : 8681.001
DATE RECEIVED : 09/06/2007
PRINTED ON : 10/12/2007 16:44
% MOISTURE :

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	DILU-TION	QUANTITATION LIMIT	RESULT	Q	ANA-LYST
Arsenic, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	0.006 MG/L		SLT
Barium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	0.743 MG/L		SLT
Cadmium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	ND MG/L		SLT
Chromium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	ND MG/L		SLT
Lead, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.003 MG/L	0.027 MG/L		SLT
Mercury, TCLP	SW846-7470A	10/08/07	10/08/07	1	0.0002 MG/L	ND MG/L		SLT
Selenium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	0.013 MG/L		SLT
Silver, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	ND MG/L		SLT

QC RESULTS

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LCS/LCSD SUMMARY REPORT

TCLP VOLATILES BY GC/MS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :

DATE RECEIVED :
PRINTED ON : 10/15/2007 8:50

SAMPLE MATRIX : SOLID
METHOD REFERENCE : SW846-8260B

LAB CONTROL SAMPLE
LCS SAMPLE ID : LCS18
CLIENT SAMPLE ID :
DATE ANALYZED : 10/10/2007
INSTRUMENT FILE : C2111.D

LAB CONTROL SAMPLE DUPLICATE
LCSD SAMPLE ID : LCS18D
CLIENT SAMPLE ID :
DATE ANALYZED : 10/10/2007
INSTRUMENT FILE : C2112.D

PARAMETER	UNITS	LCS TRUE VALUE	LCSD TRUE VALUE	LCS FOUND VALUE	LCSD FOUND VALUE	LCS RECOVERY (%)	LCSD RECOVERY (%)	RPD	RPD LIMIT	QC LIMITS REC.
1,1-Dichloroethene	UG/L	10.0	10.0	9.68	9.67	97	97	0.0	25	50 - 150
1,2-Dichloroethane	UG/L	10.0	10.0	11.4	11.7	114	117	2.6	25	50 - 150
2-Butanone	UG/L	50.0	50.0	60.6	60.4	110	121	1.7	25	50 - 150
Benzene	UG/L	10.0	10.0	10.7	11.0	107	110	2.8	25	76 - 127
Carbon tetrachloride	UG/L	10.0	10.0	9.94	9.99	99	100	1.0	25	50 - 150
Chlorobenzene	UG/L	10.0	10.0	10.4	10.7	104	107	2.8	25	75 - 130
Chloroform	UG/L	10.0	10.0	10.5	10.6	105	106	0.9	25	50 - 150
Tetrachloroethene	UG/L	10.0	10.0	10.1	10.1	101	101	0.0	25	50 - 150
Trichloroethene	UG/L	10.0	10.0	10.8	11.1	108	111	2.7	25	71 - 120
Vinyl chloride	UG/L	10.0	10.0	10.6	10.4	106	104	1.9	25	50 - 150

* Indicate values outside of QC limits

RPD : 0 out of 10 outside limits
Spike Recovery : 0 out of 20 outside limits

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LABORATORY REPORT

TCLP VOLATILES BY GC/MS

CLIENT NAME	:	CLIENT SAMPLE ID	: Prep Blank
PROJECT NAME	:	LAB SAMPLE ID	: VBLK18
PROJECT NUMBER	:	METHOD REFERENCE	: SW846-8260B
DATE SAMPLED	:	DATE RECEIVED	:
SAMPLE MATRIX	: SOLID	PRINTED ON	: 10/15/2007 8:50

ANALYST	: SP	DATE ANALYZED	: 10/10/2007
DILUTION	: 1	INSTRUMENT FILE	: C2110.D
INSTRUMENT ID	: C-5973	PURGE VOLUME	: 20 mL
TIME ANALYZED	: 10:50		

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
1,1-Dichloroethene	1.0	UG/L	ND	UG/L	
1,2-Dichloroethane	1.0	UG/L	ND	UG/L	
2-Butanone	5.0	UG/L	ND	UG/L	
Benzene	1.0	UG/L	ND	UG/L	
Carbon tetrachloride	1.0	UG/L	ND	UG/L	
Chlorobenzene	1.0	UG/L	ND	UG/L	
Chloroform	1.0	UG/L	ND	UG/L	
Tetrachloroethene	1.0	UG/L	ND	UG/L	
Trichloroethene	1.0	UG/L	ND	UG/L	
Vinyl chloride	1.0	UG/L	ND	UG/L	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
Dibromofluoromethane	10 UG/L	75 - 131	102
Toluene-d8	10 UG/L	68 - 125	101
1,2-Dichloroethane-d4	10 UG/L	62 - 139	105
4-Bromofluorobenzene	10 UG/L	75 - 125	98

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LABORATORY REPORT

TCLP VOLATILES BY GC/MS

CLIENT NAME	:	CLIENT SAMPLE ID	: Prep Blank
PROJECT NAME	:	LAB SAMPLE ID	: ZHEBLK59
PROJECT NUMBER	:	METHOD REFERENCE	: SW846~8260B
DATE SAMPLED	:	DATE RECEIVED	:
SAMPLE MATRIX	: SOLID	PRINTED ON	: 10/15/2007 8:50

ANALYST	: SP	DATE ANALYZED	: 10/10/2007
DILUTION	: 1	INSTRUMENT FILE	: C2116.D
INSTRUMENT ID	: C-5973	PRE-PREP ANALYST	: SP
PURGE VOLUME	: 20 mL	TCLP PREP. DATE	: 10/09/07
TIME ANALYZED	: 13:26		

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
1,1-Dichloroethene	1.0	UG/L	ND	UG/L	
1,2-Dichloroethane	1.0	UG/L	ND	UG/L	
2-Butanone	5.0	UG/L	ND	UG/L	
Benzene	1.0	UG/L	ND	UG/L	
Carbon tetrachloride	1.0	UG/L	ND	UG/L	
Chlorobenzene	1.0	UG/L	ND	UG/L	
Chloroform	1.0	UG/L	ND	UG/L	
Tetrachloroethene	1.0	UG/L	ND	UG/L	
Trichloroethene	1.0	UG/L	ND	UG/L	
Vinyl chloride	1.0	UG/L	ND	UG/L	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
Dibromofluoromethane	10 UG/L	75 - 131	102
Toluene-d8	10 UG/L	68 - 125	100
1,2-Dichloroethane-d4	10 UG/L	62 - 139	96
4-Bromofluorobenzene	10 UG/L	75 - 125	96

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LABORATORY REPORT

TCLP-SEMIVOLATILE ORGANICS BY GC/MS

CLIENT NAME	:	CLIENT SAMPLE ID	: Prep Blank
PROJECT NAME	:	LAB SAMPLE ID	: SBLK2F
PROJECT NUMBER	:	METHOD REFERENCE	: SW846-8270C
DATE SAMPLED	:	DATE RECEIVED	:
SAMPLE MATRIX	: SOLID	PRINTED ON	: 10/12/2007 17:03

ANALYST	: RS	DATE ANALYZED	: 10/09/2007
DATE EXTRACTED	: 10/08/07	DILUTION	: 1
EXTRACT VOLUME	: 1 mL	INSTRUMENT FILE	: D6825.D
INSTRUMENT ID	: D-5973	SAMPLE VOLUME	: 200 mL
TIME ANALYZED	: 11:45		

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
1,4-Dichlorobenzene	50	UG/L	ND	UG/L	
2,4,5-Trichlorophenol	120	UG/L	ND	UG/L	
2,4,6-Trichlorophenol	50	UG/L	ND	UG/L	
2,4-Dinitrotoluene	50	UG/L	ND	UG/L	
2-Methylphenol	50	UG/L	ND	UG/L	
3+4-Methylphenol	50	UG/L	ND	UG/L	
Hexachlorobenzene	50	UG/L	ND	UG/L	
Hexachlorobutadiene	50	UG/L	ND	UG/L	
Hexachloroethane	50	UG/L	ND	UG/L	
Nitrobenzene	50	UG/L	ND	UG/L	
Pentachlorophenol	120	UG/L	ND	UG/L	
Pyridine	50	UG/L	ND	UG/L	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
2,4,6-Tribromophenol	375 UG/L	10 - 123	46
2-Fluorobiphenyl	250 UG/L	43 - 116	50
2-Fluorophenol	375 UG/L	21 - 100	23
Nitrobenzene-d5	250 UG/L	35 - 114	46
Phenol-d5	375 UG/L	10 - 94	16
Terphenyl-d14	250 UG/L	33 - 141	55

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LABORATORY REPORT

TCLP-SEMIVOLATILE ORGANICS BY GC/MS

CLIENT NAME	:	CLIENT SAMPLE ID	: Prep Blank
PROJECT NAME	:	LAB SAMPLE ID	: TCLPBLK1005
PROJECT NUMBER	:	METHOD REFERENCE	: SW846-8270C
DATE SAMPLED	:	DATE RECEIVED	:
SAMPLE MATRIX	: SOLID	PRINTED ON	: 10/12/2007 17:03

ANALYST	: RS	DATE ANALYZED	: 10/09/2007
DATE EXTRACTED	: 10/08/07	DILUTION	: 1
EXTRACT VOLUME	: 1 mL	INSTRUMENT FILE	: D6826.D
INSTRUMENT ID	: D-5973	PRE-PREP ANALYST	: CL
SAMPLE VOLUME	: 200 mL	TCLP PREP. DATE	: 10/05/07
TIME ANALYZED	: 12:14		

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
1,4-Dichlorobenzene	50	UG/L	ND	UG/L	
2,4,5-Trichlorophenol	120	UG/L	ND	UG/L	
2,4,6-Trichlorophenol	50	UG/L	ND	UG/L	
2,4-Dinitrotoluene	50	UG/L	ND	UG/L	
2-Methylphenol	50	UG/L	ND	UG/L	
3+4-Methylphenol	50	UG/L	ND	UG/L	
Hexachlorobenzene	50	UG/L	ND	UG/L	
Hexachlorobutadiene	50	UG/L	ND	UG/L	
Hexachloroethane	50	UG/L	ND	UG/L	
Nitrobenzene	50	UG/L	ND	UG/L	
Pentachlorophenol	120	UG/L	ND	UG/L	
Pyridine	50	UG/L	ND	UG/L	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
2,4,6-Tribromophenol	375 UG/L	10 - 123	47
2-Fluorobiphenyl	250 UG/L	43 - 116	50
2-Fluorophenol	375 UG/L	21 - 100	24
Nitrobenzene-d5	250 UG/L	35 - 114	47
Phenol-d5	375 UG/L	10 - 94	17
Terphenyl-d14	250 UG/L	33 - 141	54

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LCS/LCSD SUMMARY REPORT

TOLP SEMIVOLATILE ORGANICS BY GC/MS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :

DATE RECEIVED :
PRINTED ON :10/12/2007 17:10

SAMPLE MATRIX :SOLID
METHOD REFERENCE :SW846-8270C

LAB CONTROL SAMPLE
LCS SAMPLE ID :SLCS2F
CLIENT SAMPLE ID :
DATE ANALYZED :10/09/2007
INSTRUMENT FILE :D6827.D

LAB CONTROL SAMPLE DUPLICATE
LCSD SAMPLE ID :SLCS2FD
CLIENT SAMPLE ID :
DATE ANALYZED :10/09/2007
INSTRUMENT FILE :D6828.D

PARAMETER	UNITS	LCS TRUE VALUE	LCSD TRUE VALUE	LCS FOUND VALUE	LCSD FOUND VALUE	LCS RECOVERY (%)	LCSD RECOVERY (%)	RPD	RPD LIMIT	QC LIMITS REC.
1,4-Dichlorobenzene	UG/L	250	250	102	105	41	42	2.4	28	36 - 97
2,4,5-Trichlorophenol	UG/L	250	250	156	156	62	62	0.0	50	9 - 103
2,4,6-Trichlorophenol	UG/L	250	250	144	143	58	57	1.7	50	9 - 103
2,4-Dinitrotoluene	UG/L	250	250	121	127	48	51	6.1	38	24 - 96
2-Methylphenol	UG/L	250	250	119	121	48	48	0.0	50	23 - 97
3+4-Methylphenol	UG/L	500	500	241	246	48	49	2.1	50	10 - 120
Hexachlorobenzene	UG/L	250	250	117	118	47	47	0.0	50	36 - 97
Hexachlorobutadiene	UG/L	250	250	100	94.8	40	38	5.1	50	30 - 140
Hexachloroethane	UG/L	250	250	103	105	41	42	2.4	50	30 - 140
Nitrobenzene	UG/L	250	250	111	112	44	45	2.2	50	35 - 120
Pentachlorophenol	UG/L	250	250	119	116	48	46	4.3	50	9 - 103
Pyridine	UG/L	250	250	82.6	80.4	33	32	3.1	50	9 - 103

* Indicate values outside of QC limits

RPD : 0 out of 12 outside limits
Spike Recovery : 0 out of 24 outside limits

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LABORATORY REPORT

TOTAL PETROLEUM HYDROCARBONS

CLIENT NAME	:	CLIENT SAMPLE ID	: Prep Blank
PROJECT NAME	:	LAB SAMPLE ID	: TPHB965
PROJECT NUMBER	:	METHOD REFERENCE	: TNRCC-1005
DATE SAMPLED	:	DATE RECEIVED	:
SAMPLE MATRIX	: SOLID	PRINTED ON	: 10/12/2007 17.20

% MOISTURE	:	ANALYST	: HC
DATE ANALYZED	: 10/09/07	DATE PREPPED	: 10/09/07
DILUTION	: 1	EXTRACT VOLUME	: 10 ML
INSTRUMENT FILE	: B14050	INSTRUMENT ID	: B-5890
SAMPLE SIZE	: 10 G	TIME ANALYZED	: 11:00

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
TPH-(>nC12-nC28)	20.0	MG/KG	ND	MG/KG	
TPH-(>nC28-nC35)	20.0	MG/KG	ND	MG/KG	
TPH-(nC6-nC12)	20.0	MG/KG	ND	MG/KG	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
o-Terphenyl	250 MG/KG	70 - 130	109
1-Chlorooctane	250 MG/KG	70 - 130	107

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LCS/LCSD SUMMARY REPORT

TOTAL PETROLEUM HYDROCARBONS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :

DATE RECEIVED :
PRINTED ON : 10/12/2007 17:20

SAMPLE MATRIX : SOLID
METHOD REFERENCE : TNRCC-1005

LAB CONTROL SAMPLE
LCS SAMPLE ID : TPHL965
CLIENT SAMPLE ID :
DATE ANALYZED : 10/09/07
INSTRUMENT FILE : B14051

LAB CONTROL SAMPLE DUPLICATE
LCSD SAMPLE ID :
CLIENT SAMPLE ID :
DATE ANALYZED :
INSTRUMENT FILE :

PARAMETER	UNITS	LCS TRUE VALUE	LCSD TRUE VALUE	LCS FOUND VALUE	LCSD FOUND VALUE	LCS RECOVERY (%)	LCSD RECOVERY (%)	RPD	RPD LIMIT	QC LIMITS REC.
TPH-(>nC12-nC28)	MG/KG	250		225		90			30	75 - 125
TPH-(nC6-nC12)	MG/KG	250		221		88			30	75 - 125

* Indicate values outside of QC limits

RPD : 0 out of 0 outside limits
Spike Recovery : 0 out of 2 outside limits

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LABORATORY REPORT

TCLP METALS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :
DATE SAMPLED :
SAMPLE MATRIX : SOLID

CLIENT SAMPLE ID : Prep Blank
LAB SAMPLE ID : HGBLK97
DATE RECEIVED :
PRINTED ON : 10/12/2007 16:44
% MOISTURE :

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	DILU-TION	QUANTITATION LIMIT	RESULT	Q	ANA-LYST
Mercury, TCLP	SW846-7470A	10/08/07	10/08/07	1	0.0002 MG/L	ND MG/L		SLT

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LCS/LCSD SUMMARY REPORT

TCLP METALS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :

DATE RECEIVED :
PRINTED ON : 10/12/2007 16:44

SAMPLE MATRIX : SOLID

LAB CONTROL SAMPLE
LCS SAMPLE ID : RGLCS97
CLIENT SAMPLE ID :

LAB CONTROL SAMPLE DUPLICATE
LCSD SAMPLE ID :
CLIENT SAMPLE ID :

COMPOUND	METHOD REFERENCE	UNITS	LCS TRUE VALUE	LCSD TRUE VALUE	LCS FOUND VALUE	LCSD FOUND VALUE	LCS RECOVERY (%)	LCSD RECOVERY (%)	RPD	RPD LIMIT	QC LIMITS REC.
Mercury, TCLP	SW846-7470A	MG/L	0.0012		0.0012		100			30	80 - 120

* Indicate values outside of QC limits

RPD : 0 out of 0 outside limits

Spike Recovery : 0 out of 1 outside limits

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LCS/LCSD SUMMARY REPORT

TCLP METALS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :

DATE RECEIVED :
PRINTED ON : 10/12/2007 16:44

SAMPLE MATRIX : SOLID

LAB CONTROL SAMPLE

LCS SAMPLE ID : LCSW04
CLIENT SAMPLE ID :

LAB CONTROL SAMPLE DUPLICATE

LCSD SAMPLE ID :
CLIENT SAMPLE ID :

COMPOUND	METHOD REFERENCE	UNITS	LCS TRUE VALUE	LCSD TRUE VALUE	LCS FOUND VALUE	LCSD FOUND VALUE	LCS RECOVERY (%)	LCSD RECOVERY (%)	RPD	QC LIMITS RPD LIMIT	QC LIMITS REC.
Arsenic,TCLP	SW846-6010B	MG/L	0.250		0.241		96			20	80 - 120
Barium, TCLP	SW846-6010B	MG/L	5.00		4.86		97			20	80 - 120
Cadmium, TCLP	SW846-6010B	MG/L	0.125		0.118		94			20	80 - 120
Chromium, TCLP	SW846-6010B	MG/L	0.500		0.469		94			20	80 - 120
Lead, TCLP	SW846-6010B	MG/L	0.250		0.244		98			20	80 - 120
Selenium, TCLP	SW846-6010B	MG/L	0.250		0.242		97			20	80 - 120
Silver, TCLP	SW846-6010B	MG/L	0.625		0.502		80			20	80 - 120

* Indicate values outside of QC limits

RPD : 0 out of 0 outside limits

Spike Recovery : 0 out of 7 outside limits

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LABORATORY REPORT

TCLP METALS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :
DATE SAMPLED :
SAMPLE MATRIX : SOLID

CLIENT SAMPLE ID : Prep Blank
LAB SAMPLE ID : PBW04
DATE RECEIVED :
PRINTED ON : 10/12/2007 16:44
% MOISTURE :

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	DILU-TION	QUANTITATION LIMIT	RESULT	Q	ANA-LYST
Arsenic, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	ND MG/L		SLT
Barium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	ND MG/L		SLT
Cadmium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	ND MG/L		SLT
Chromium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	ND MG/L		SLT
Lead, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.003 MG/L	ND MG/L		SLT
Selenium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	ND MG/L		SLT
Silver, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	ND MG/L		SLT

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LABORATORY REPORT

TCLP METALS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :
DATE SAMPLED :
SAMPLE MATRIX : SOLID

CLIENT SAMPLE ID : Prep Blank
LAB SAMPLE ID : TCLPBLK1006
DATE RECEIVED :
PRINTED ON : 10/12/2007 16:44
% MOISTURE :

ANALYTE	METHOD	DATE PREPARED	DATE ANALYZED	DILU-TION	QUANTITATION LIMIT	RESULT	Q	ANA-LYST
Arsenic, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	ND MG/L		SLT
Barium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	ND MG/L		SLT
Cadmium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	ND MG/L		SLT
Chromium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	ND MG/L		SLT
Lead, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.003 MG/L	ND MG/L		SLT
Mercury, TCLP	SW846-7470A	10/08/07	10/08/07	1	0.0002 MG/L	ND MG/L		SLT
Selenium, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.005 MG/L	ND MG/L		SLT
Silver, TCLP	SW846-6010B	10/10/07	10/12/07	1	0.01 MG/L	ND MG/L		SLT

END OF REPORT

Date of preparation: 07/01/04 3011000-10H

SECTION I

Manufacturer	: W. R. MEADOWS, INC.
Address	: 300 Industrial Drive
	: Hampshire, Illinois 60140
Telephone #	: (847) 683-4500
Emergency #	: 1-800-424-9300 Chemtrec
Product Class	: DIVISION 3, Catalog #360-R
Mfg. code I.D.	: 3011000-10H
Trade Name	: 1100 WATER-BASE CLEAR CURING COMPOUND

- H M I S -

|Health	: 1 |
|Flammability	: 1 |
|Reactivity	: 0 |
|Personal Protection	: |

(Hazard Rating: 0=Least,1=Slight,2=Moderate,3=High,4=Extreme,*=Chronic)

SECTION II-A HAZARDOUS COMPONENTS

No. Component	CAS#	% by Weight	SARA 313	VAPOR PRESSURE (mm Hg @ 20 C)	LEL (@ 25 C)
1. Mineral Spirits	64742-47-8	5-10	NO	2.6	0.75

None of the components of this product are recognized as carcinogenic. N/A: Not Applicable

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313".

SECTION II-B OCCUPATIONAL EXPOSURE LIMITS

	OSHA				ACGIH			
No.	PEL/TWA	PEL/CEILING	PEL/STEL	SKIN	TLV/TWA	TLV/CEILING	TLV/STEL	SKIN
1.	100PPM	500PPM	N/E	N/E	100PPM	N/E	200PPM	N/E

N/E: Not established

SECTION III PHYSICAL DATA

Boiling Point	: 212 degrees F.	**% Volatile by volume**	: 85.00 (Theoretical)
Evaporation Rate	: < 1 (ether = 1)	**% Volatile by weight**	: 84.00 (Theoretical)
Vapor Density	: > 1 (air = 1)	**Weight per gallon**	: 8.33 (Theoretical)
pH Level	: 8.80		

SECTION IV HEALTH INFORMATION

EYE CONTACT: Based on the presence of component 1 this product is presumed to be moderately irritating to the eyes. Product vapors and/or mists may also be irritating to the eyes.

SKIN CONTACT: Exposure may cause mild to moderate irritation. Prolonged or repeated contact may result in defatting and drying of the skin which may result in dermatitis. No irritation is likely after brief contact, but may occur after prolonged contact.

INHALATION: Exposure may irritate the nose, throat, respiratory tract, and other mucous membranes. Exposure to excessive vapor concentrations may cause signs of transient central nervous system depression. (e.g. headache, drowsiness, loss of coordination, and fatigue). Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

INGESTION: Based on the presence of component 1 this product is presumed to be slightly toxic. Small amounts of the liquid aspirated into the lungs during ingestion or from vomiting may result in severe lung damage. While this material has a low degree of toxicity, ingestion of excessive quantities may cause signs of central nervous system depression. (e.g. headache, fatigue, drowsiness, dizziness, and loss of coordination).

SIGNS AND SYMPTOMS: Symptoms of eye irritation include pain, tearing, reddening, and swelling. Symptoms of skin irritation include reddening, swelling, rash, and redness. Symptoms of respiratory irritation include runny nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function. Symptoms of gastrointestinal irritation include sore throat, abdominal pain, nausea, vomiting, and diarrhea. Transient central nervous system depression may be evidenced by headache, dizziness, nausea, and symptoms of intoxication; in extreme cases, unconsciousness and death may occur. Symptoms of chronic overexposure include loss of memory, loss of intellectual ability, and loss of coordination.

AGGRAVATED MEDICAL CONDITIONS: Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to this product.

OTHER HEALTH EFFECTS: None recognized.

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Immediately flush eyes with water for fifteen (15) minutes. If symptoms persist, seek medical attention.

SKIN CONTACT: Remove contaminated shoes and clothing. Wipe excess from skin and flush with water using soap if available. Seek medical attention if irritation occurs. Do not reuse clothing until thoroughly decontaminated.

INHALATION: Remove victim to fresh air and treat symptomatically. Provide oxygen if breathing is difficult. Give artificial respiration if the victim is not breathing. Seek prompt medical attention.

INGESTION: Do not induce vomiting. If vomiting spontaneously occurs, keep the victim's head below the hips to prevent aspiration into the lungs. Since aspiration into the lungs can cause very serious, permanent damage, the decision of whether to induce vomiting or not should be made by a physician. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Consult a physician, hospital, or poison control center and/or transport to an emergency facility immediately.

EPAHO107000079

SECTION VI FIRE AND EXPLOSION HAZARDS

FLAMMABILITY CLASSIFICATION - NFPA : Combustible Liquid - Class IIIA
- DOT : Not regulated

FLASH POINT: Greater than 210 degrees F. (Estimate)
EXTINGUISHING MEDIA: Use water fog, foam, dry chemical, or Carbon Dioxide.
SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS: Clear area of unprotected personnel. Do not enter confined fire space without helmet, face shield, bunker coat, gloves, rubber boots, and a positive pressure NIOSH approved self-contained breathing apparatus.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure.

SECTION VII REACTIVITY

STABILITY: Stable **HAZARDOUS POLYMERIZATION:** Will not occur
CONDITIONS AND MATERIALS TO AVOID: Avoid oxidizing materials.
HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may yield Carbon Dioxide, Carbon Monoxide, and/or incomplete combustion products. Do not breathe smoke or fumes. Wear appropriate protective equipment.

SECTION VIII EMPLOYEE PROTECTION

RESPIRATORY PROTECTION: Use ventilation as required to control vapor concentrations - at least 10 air changes per hour are recommended for good general room ventilation. If exposure exceeds the PEL/TLV, use the appropriate NIOSH approved respirator.
PROTECTIVE CLOTHING: Wear safety glasses, goggles, or a splash shield to prevent eye contact. Contact lenses should not be worn. Wear appropriate gloves and protective clothing to prevent contact with skin and clothing.
ADDITIONAL PROTECTIVE MEASURES: Eye wash fountains and safety showers should be available for use in an emergency.

SECTION IX ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES: LARGE SPILLS>> Evacuate the hazard area of unprotected personnel. Wear appropriate respirator and protective clothing. Shut off source of leak only if safe to do so. Dike and contain. If vapor cloud forms, water fog may be used to suppress; contain run-off. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove trace residue; dispose of flush solutions as above. SMALL SPILLS>> Take up with an absorbent material and place in non-leaking containers; seal tightly for proper disposal.
WASTE DISPOSAL: Observe all Federal, State and local regulations regarding proper disposal.

SECTION X ADDITIONAL PRECAUTIONS

Containers can contain hazardous product residues even when empty. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of the product described herein.

EPAHO107000080

ATTN: Zack

*** MATERIAL SAFETY DATA SHEET ***

Date of preparation: 05/31/07

SECTION I

Manufacturer	: W. R. MEADOWS, INC.
Address	: 300 Industrial Drive
	: Hampshire, IL 60140
Telephone #	: (847) 683-4500
Emergency #	: 1-800-424-9300 Chemtrec

- H M I S -

Health	: 1
Flammability	: 1
Reactivity	: 0
Personal Protection	:

(Hazard Rating: 0=Least,1=Slight,2=Moderate,3=High,4=Extreme,*=Chronic)

Product Class	: DIVISION 3
Mfg. code I.D.	: 3012000-2
Trade Name	: 1200-WHITE

SECTION II-A HAZARDOUS COMPONENTS

No.	Component	CAS#	% by Weight	SARA 313	VAPOR PRESSURE (mm Hg @ 20 C)	LEL (@ 25 C)
1.	Light Aromatic Naphtha	64742-95-6	1-5	NO	<10.00 @ 25 C)	0.90
2.	Titanium Dioxide	13463-67-7	1-3	NO	N/A	N/A
3.	1,2,4-Trimethylbenzene	95-63-6	1-5	Yes	N/A	0.90

None of the components of this product are recognized as carcinogenic. N/A = Not Applicable

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313".

SECTION II-B OCCUPATIONAL EXPOSURE LIMITS

	OSHA				ACGIH			
No.	PEL/TWA	PEL/CEILING	PEL/STEL	SKIN	TLV/TWA	TLV/CEILING	TLV/STEL	SKIN
1.	N/E	N/E	N/E	N/E	N/E	N/E	N/E	N/E
2.	15 mg/m³**	N/E	N/E	N/E	10 mg/m³**	N/E	N/E	N/E
3.	25 ppm	N/E	N/E	N/E	225 ppm	N/E	N/E	N/E

** = Total Dust N/E: Not Established

SECTION III PHYSICAL DATA

Boiling Point	: 212 degrees F	% Volatile by volume	: N/E
Evaporation Rate	: < 1 (ether = 1)	% Volatile by weight	: 76.91 (Theoretical)
Vapor Density	: > 1 (air = 1)	Weight per gallon	: 8.49 (Theoretical)
pH Level	: 8.87	VOC Level	: 186.5 g/L

SECTION IV HEALTH INFORMATION

EYE CONTACT: Based on the presence of components 1 & 3 this product is presumed to be moderately irritating to the eyes. Product vapors and/or mists may also be irritating to the eyes.

SKIN CONTACT: Based on the presence of components 1& 3 prolonged or repeated contact may result in defatting and drying of the skin which may result in dermatitis.

INHALATION: Exposure may cause irritation to the nose, throat, respiratory tract, and other mucous membranes. Based on the presence of component 1 exposure to excessive vapor concentrations may cause signs of transient central nervous system depression (e.g., headache, drowsiness, loss of coordination, and fatigue).

INGESTION: May cause irritation to the gastrointestinal tract. While this material has a low degree of toxicity, ingestion of excessive quantities may cause signs of central nervous system depression (e.g., headache, fatigue, drowsiness, dizziness, and loss of coordination). Based on the presence of components 1 & 3 ingestion may cause pulmonary injury.

SIGNS AND SYMPTOMS: Repeated excessive exposure may cause irritation of the eyes, nose, and skin. Based on the presence of component 1 central nervous system depression may be evidenced by headache, dizziness, nausea, and symptoms of intoxication; in extreme cases, unconsciousness and death may occur. Symptoms of chronic overexposure include loss of memory, loss of intellectual ability, and loss of coordination.

AGGRAVATED MEDICAL CONDITIONS: Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to this product.

OTHER HEALTH EFFECTS: Based on the presence of component 2 chronic overexposure to Titanium Dioxide may cause slight lung fibrosis.

22-Jan-2008 11:51 AM W R MEADOWS OF TEXAS 8176340134

1/2

EPAHO107000081

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: If irritation or redness develops, move victim away from exposure source and into fresh air. Flush eyes with water for fifteen (15) minutes. If symptoms persist, seek medical attention.

SKIN CONTACT: Remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops and persists, seek medical attention.

INHALATION: If respiratory symptoms develop, move victim away from exposure source and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

INGESTION: Do not induce vomiting. Vomiting will cause further damage to the throat. Dilute by giving water or milk to drink if the victim is conscious. Consult a physician, hospital, or poison control center and/or transport to an emergency facility immediately.

SECTION VI FIRE AND EXPLOSION HAZARDS

FLAMMABILITY CLASSIFICATION - NFPA: Combustible Liquid - Class IIA
- DOT: Not Regulated

FLASH POINT: Greater then 200 degrees F (Closed Cup)

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical, or Carbon Dioxide.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS: Clear area of unprotected personnel. Do not enter confined fire space without helmet, face shield, bunker coat, gloves, rubber boots, and a positive pressure NIOSH approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Container areas exposed to direct flame contact should be cooled with large quantities of water as needed to prevent weakening of container structure.

SECTION VII REACTIVITY

STABILITY: Stable **HAZARDOUS POLYMERIZATION:** Will not occur

CONDITIONS AND MATERIALS TO AVOID: Avoid oxidizing materials, strong acids, and alkalis.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion may yield Carbon Dioxide, Carbon Monoxide, and/or incomplete combustion compounds. Do not breathe smoke or fumes. Wear appropriate protective equipment.

SECTION VIII EMPLOYEE PROTECTION

RESPIRATORY PROTECTION: Use ventilation as required to control vapor concentrations - at least 10 air changes per hour are recommended for good general room ventilation. If exposure exceeds the PEL/TLV, use the appropriate NIOSH approved respirator.

PROTECTIVE CLOTHING: Wear safety glasses, goggles, or a splash shield to prevent eye contact. Contact lenses should not be worn. Wear appropriate gloves and protective clothing to prevent contact with skin and clothing.

ADDITIONAL PROTECTIVE MEASURES: Eye wash fountains and safety showers should be available for use in an emergency.

SECTION IX ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES: LARGE SPILLS>> Evacuate the hazard area of unprotected personnel. Wear appropriate respirator and protective clothing. Shut off source of leak only if safe to do so. Dike and contain. If vapor cloud forms, water fog may be used to suppress; contain run-off. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove trace residue; dispose of flush solutions as above. SMALL SPILLS>> Take up with an absorbent material and place in non-leaking containers; seal tightly for proper disposal.

WASTE DISPOSAL: Observe all Federal, State and local regulations regarding proper disposal.

SECTION X ADDITIONAL PRECAUTIONS

Containers can contain product residues even when empty. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

The information contained herein is based on the data available to us and is believed to be correct. However, we make no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. We assume no responsibility for injury from the use of the product described herein.

2/2
22-Jan-2008 11:52 AM W R MEADOWS OF TEXAS 8178340134
EPAHO107000082

A4 Scientific
www.a4scientific.com

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380
(281)292-5277
FAX: (281)292-2481

January 28, 2008

ZAC MCKAUGHAN
CKG SERVICES
10707 HONEA EGYPT RD.
MONTGOMERY, TX 77316

REFERENCE:

Project.....: BALFOUR BEATTY
Project Number.....:
Lab Episode Number.....: 8786
Date Received.....: 01/25/2008

Dear ZAC MCKAUGHAN:

Enclosed is the analytical Report for the project referenced above. The following sample(s) are included in the report.

☐0001 ☐ ☐ ☐

All the holding times were met for the tests performed on these samples. Enclosed, please find the Quality Control Summary. All quality control results for the QC batch that are applicable to the sample(s) are acceptable except as noted in the QC batch reports.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting A4 SCIENTIFIC for your laboratory needs on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely,

Reddy Pakanati
Laboratory Manager

A4 SCIENTIFIC, INC.
1544 SAWDUST ROAD, SUITE 505
THE WOODLANDS, TX 77380
(281) 292-5277
TAX ID: 76-0645891

Invoice

Number: COM1759

Date: January 28, 2008

Bill To:

ZAC MCKAUGHAN
CKG SERVICES
10707 HONEA EGYPT ROAD
MONTGOMERY, TX 77316

Ship To:

ZAC MCKAUGHAN
CKG SERVICES
10707 HONEA EGYPT ROAD
MONTGOMERY, TX 77316

P.O. Number	Terms	Lab Episode	Date Received	Project
	NET 30	8786	01/25/2008	BALFOUR BEATTY

Item #	Description	Quantity	Price Each	Amount
	TCLPVOA8260B	1.00	175.00	175.00
	RUSH CHARGES	1.00	87.50	87.50
	TCLP EXTRACTION	1.00	50.00	50.00
			Total	$312.50

Thank you for your business.
Please reference our invoice number on your payment.
Make Checks payable to A4 SCIENTIFIC, INC.

A4 Scientific
www.a4scientific.com

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380
(281) 292-5277
(Fax): (281) 292-2481

ANALYTICAL REPORT

CLIENT PROJECT....: BALFOUR BEATTY
CLIENT PROJECT NUMBER...: _____

Prepared For:

CKG SERVICES
10707 HONEA EGYPT RD.
MONTGOMERY, TX 77316

ATTENTION: ZAC MCKAUGHAN

Date: 01/28/2008

Reddy Pakanati
Signature

LAB EPISODE NUMBER: 8786
Date Received.....: 01/25/2008
Lab Project ID....: Q061604A

Reddy Pakanati
Laboratory Manager
(281) 292-5277
pakanati@a4scientific.com

A4 Scientific

Chain of Custody Record

1544 Sawdust Road, Suite 505 • The Woodlands, TX 77380
(281) 292-5277 • FAX: (281) 292-2481 • www.a4scientific.com

CoC No. _____

Lab Project No. 8786

Client Name / Address: CKG Services	Project Manager: Lee McKeagh Phone Number: 281-541-4829	Send Report to: CKG	
Project Number:	Project Name: Balfour Beatty Cure		
Samplers (Signature)	P.O. Number		

Client Sample ID	Date	Time	Station Location	Number of Containers	Matrix	TCLP Benzene	Client Remarks	For Lab Use Only: Lab Sample ID
0001	1/25	11:30		1	Liquid	✓	Please Send Results ASAP 1/29/08 Rush	-01

Relinquished by (Signature)	Date / Time	Received by (Signature)	Date / Time	Lab Remarks:
	1/25 1:54			
Relinquished by (Signature)	Date / Time	Received for Laboratory by (Signature)	Date / Time	
		J Schultz	1/25 1:54	

Method of Shipment:

Distribution: Original accompanies shipment; Copy to coordinator and field files

Jan 29 2008 13:25 HP LASERJET 3330 P.5

EPAHO10700086

A4 Scientific

Sample Log-In Report

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380

Logged By: JS
Client Name: CEG SERVICES
Client Project Name: BALFOUR BEATTY
ClientProject #:
P.O. No.:
Courier/No.:

Lab Project ID: Q061604A
Date Logged: 01/28/08
Date Received: 01/25/08
Time Received: 13:54

Report Date: 01/28/2008 11:52:02
Send Report To..
ZAC MCKAUGHAN
10707 HONEA EGYPT RD.

MONTGOMERY
TX 77316

CASE	SDG	Lab Sample ID	Client Sample ID	No. Cont.	Sample Matrix	Date Sampled	Time Sampled	Chain Of Custody No.	Tests Required	Date Due	Remarks
		8786.002	0001	1	WATER	01/25/08	12:30	8786	TCLPVOA8260B-BENZENE	01/30/08	

Instructions To Lab:
"RUSH"

JS

Lab Approval

Client Approval

EPAHO107000087

A4 Scientific

1544 Sawdust Road, Suite 505
The Woodlands, TX 77380

LABORATORY REPORT

TCLP VOLATILES BY GC/MS

CLIENT NAME	: CKG SERVICES	CLIENT SAMPLE ID	: 0001
PROJECT NAME	: BALFOUR BEATTY	LAB SAMPLE ID	: 8786.001
PROJECT NUMBER	:	METHOD REFERENCE	: SW846-8260B
DATE SAMPLED	: 01/25/2008	DATE RECEIVED	: 01/25/2008
SAMPLE MATRIX	: WATER	PRINTED ON	: 01/28/2008 14:31

ANALYST	: DP	DATE ANALYZED	: 01/28/2008
DILUTION	: 25	INSTRUMENT FILE	: F8216.D
INSTRUMENT ID	: F-5973	PURGE VOLUME	: 20 mL
TCLP PREP. DATE	: 01/25/08	TIME ANALYZED	: 11:28

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
Benzene	25	UG/L	ND	UG/L	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
4-Bromofluorobenzene	250 UG/L	75 - 125	117
Dibromofluoromethane	250 UG/L	75 - 131	103
Toluene-d8	250 UG/L	68 - 125	102
1,2-Dichloroethane-d4	250 UG/L	62 - 139	107

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1644 Sawdust Road, Suite 505
The Woodlands, TX 77380

LABORATORY REPORT

TCLP VOLATILES BY GC/MS

CLIENT NAME	: CRG SERVICES	CLIENT SAMPLE ID	: 0001
PROJECT NAME	: BALFOUR BEATTY	LAB SAMPLE ID	: 8786.001
PROJECT NUMBER	:	METHOD REFERENCE	: SW846-8260B
DATE SAMPLED	: 01/25/2008	DATE RECEIVED	: 01/25/2008
SAMPLE MATRIX	: WATER	PRINTED ON	: 01/28/2008 14:34

ANALYST	: DP	DATE ANALYZED	: 01/28/2008
DILUTION	: 25	INSTRUMENT FILE	: F8216.D
INSTRUMENT ID	: F-5973	PURGE VOLUME	: 20 mL
TCLP PREP. DATE	: 01/25/08	TIME ANALYZED	: 11:28

PARAMETER	QUANTITATION LIMIT		RESULTS		QUALIFIER
Benzene	25	UG/L	ND	UG/L	

QUALITY CONTROL DATA

SURROGATE COMPOUND	SPIKE ADDED	QC RECOVERY LIMITS	%RECOVERY
4-Bromofluorobenzene	250 UG/L	75 - 126	117
Dibromofluoromethane	250 UG/L	75 - 131	103
Toluene-d8	250 UG/L	69 - 125	102
1,2-Dichloroethane-d4	250 UG/L	62 - 139	107

QC RESULTS

A4 Scientific
1544 Sawdust Road, Suite 505
The Woodlands, TX 77380

LCS/LCSD SUMMARY REPORT

TCLP VOLATILES BY GC/MS

CLIENT NAME :
PROJECT NAME :
PROJECT NUMBER :

DATE RECEIVED :
PRINTED ON : 01/30/2008 14:34

SAMPLE MATRIX : LIQUID
METHOD REFERENCE : SW846-8260B

LAB CONTROL SAMPLE
LCS SAMPLE ID : VLCS58
CLIENT SAMPLE ID :
DATE ANALYZED : 01/28/2008
INSTRUMENT FILE : F8215.D

LAB CONTROL SAMPLE DUPLICATE
LCSD SAMPLE ID :
CLIENT SAMPLE ID :
DATE ANALYZED :
INSTRUMENT FILE :

PARAMETER	UNITS	LCS TRUE VALUE	LCSD TRUE VALUE	LCS FOUND VALUE	LCSD FOUND VALUE	LCS RECOVERY (%)	LCSD RECOVERY (%)	RPD	RPD LIMIT	QC LIMITS %R
Benzene	UG/L	10.0		10.1		101			20	70 - 130

* Indicate values outside of QC limits

RPD : 0 out of 0 outside limits
Spike Recovery : 0 out of 1 outside limits

A4 Scientific
1544 Sawdust Road, Suite 505
The Woodlands, TX 77380
281-292-5277
281-292-2481
www.a4scientific.com

Fax

Dan Bowman Zac McKaughan

To: ~~Zac McKaughan~~ From: ~~Bobby Robinson~~

Company: CVG Pages: 11 (Including Cover Sheet)

Phone: Date: 1-29-08

Fax: (936)756-1226 Re: Rush Results

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

• Comments:

2605 GATX (Hearne)
2605

EPAHO107000093

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/31/2008**

Dear **Ricardo Salias**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2605

Expiration Date 1/31/2010

Generator: GATX (Hearne)
Address: 1401 W. Brown St.
Hearne, TX 77859

Waste Information

Name of Waste: Sodium bromide
TCEQ Waste Code #: 00176091
Container Type: 00176091
Detailed Description of Process Generating Waste:
Removal of heel from railcars prior to cleaning
Color: white **Odor:** na **pH:** na
Physical State:
Incompatibilities: strong acids
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

DC
GRP
see notes

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30148
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	GATX Rail		
Address:	1401 W. Brown Street PO Box 969		
City, State, Zip:	Hearne, TX 77859		
Contact:	Ricardo Salias	**Title:**	
Phone No:	979-279-3481	**Fax No:**	979-279-5664
24/hr Phone:			
U.S. EPA I.D. No:	TXD000835207		
State I.D.	32643	**SIC Code:**	NA

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Waste

Name of Waste: Sodium Bromide
Detailed Description of Process Generating Waste: Removal of heel from railcars prior to cleaning

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☒ Solid ☐ Filter Cake ☐ Combination

Color: white **Odor:** none

Specific Gravity (water=1): ~~1.43~~ NA **Density:** NA lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type:	☒	Drum	☐	Tote	☐	Truck	☐ Other (explain)
Container Size:		55 gal					

Frequency: ☐ Weekly ☐ Monthly ☒ Quarterly ☐ Yearly
Number of Units (containers): 15 **Other:**
Texas State Waste Code No: 00176091
Proper U.S. DOT Shipping Name: Non RCRA Non DOT Regulated Material
Class: NA **UN/NA:** NA **PG:** NA **RQ:** NA

EPAHO107000095

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
NA	NA	0mg/l	0mg/l	100%

Oil&Grease	TOC	Zinc	Copper	Nickel
0mg/l	NAmg/l	NAmg/l	NAmg/l	NAmg/l

SECTION 4: Physical and Chemical Data

[redacted]	[redacted]	[redacted]
The waste consists of the following materials	Ranges are acceptable	or %
Sodium Bromide	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Standard

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
strong acids

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 1/29/08

Printed Name/Title: Ricardo Salias

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature]

Date: 1-29-08 Approved Rejected

Approval Number: 2605

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000097

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the Oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000098

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$100.00/drum
$200.00/load freight

2. **Contamination Limits (maximum limit before surcharges apply):**

None

3. **Surcharge Pricing:**

None

4. **Special Testing Requirements:**

None

5. **Treatment and Handling Protocol:**

Put in Class 2 solids box OR mix ~~one part~~ water to one part sodium bromide and pump into trailer going to Newpark. Make 3 parts SP sure the lab checks compatibility before pumping dissolved solution into the Newbark tank Truck.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO107000099

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

NA

8. **Management for Product Recovered/Recycled (if applicable):**

NA

2606 Shell Global
2606

EPAHO107000101

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **1/31/2008**

Dear **Brenda Clark**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2606

Expiration Date 1/30/2010

Producer: Shell Global
Address: 780 Clinton Drive
Galena Park, TX 77547

Material / Product Information

Name of Material / Product Unused bleach
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Unused Liquichlor 12.5%

Color: clear **Odor:** mild **pH:** 11-13
Physical State:
Incompatibilities: Avoid combustible organic material, contact can result in fire, avoid acids, see MSDS sections 3, 5, 7, 10
Safety Related Data/Special Handling:
see MSDS

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

YR see notes

CES Environmental Services, Inc.

4904 Griggs Road **Houston, TX 77021**
Phone: (713) 676-1460 **Fax: (713) 676-1676**
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 **ISWR No: 30900**

fb

SECTION 1: Material Producer Information

Company:	Shell Lubricants		
Address:	780 Clinton Drive (P.O. Box 4427, Houston, TX 77210)		
City, State, Zip:	Galena Park, TX 77547		
Contact:	Brenda Clark, P.E., DEE, CHMM, REM	**Title:**	Regional & Environmental Engineer
Phone No:	713-546-6923	**Fax No:**	713-546-8505
24/hr Phone:	713-546-8505		
U.S. EPA I.D. No:	TXD150364289		
State I.D.	39781	**SIC Code:**	NA

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Material / Product

Name of Material / Product: Unused Bleach
Detailed Description of Process Generating or Producing the Material / Product: Unused Liquichlor 12.5%

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: clear **Odor:** mild

Specific Gravity (water=1): 1.198 **Density:** 8-9 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☒ **Single-phase** ☐ **Multi-phase**

Container Type:	☒	**Drum**	☐ **Tote**	☐	**Truck**	☐	**Other (explain)**
Container Size:		55 gal					

Frequency: ☐ **Weekly** ☐ **Monthly** ☐ **Quarterly** ☒ **Yearly**
Number of Units (containers): 3 **Other:**

Proper U.S. DOT Shipping Name: Product Hypochlorite Solution

Class: 8 **UN/NA:** UN1791 **PG:** III **RQ:** ~~N/A~~ 100 lbs

EPAHO107000103

Flash Point	pH	N/A	N/A	Solids
N/A	11-13			0%

Oil&Grease	TOC	Zinc	Copper	Nickel
N/Amg/l	N/Amg/l	N/Amg/l	N/Amg/l	N/Amg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Sodium hypochlorite	9-16	%
Water	80-90	%
Sodium Hydroxide	0.3-4	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
Mild Inhalation hazard

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Contact with acid produces toxic chlorine gas.

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: N/A **Date:** ____

Printed Name/Title: No signature required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: Robbie R Thompson Date: 1-30-08 Approved Rejected Approval Number: 2606	

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

no charge for disposal. Trans charge only.

2. **Contamination Limits (maximum limit before surcharges apply):**

N/A

3. **Surcharge Pricing:**

N/A

4. **Special Testing Requirements:**

ph should be within 11-13 TOC + Metals

5. **Treatment and Handling Protocol:**

~~Store with other drums of bleach for Transmontaigne loads.~~ Handle carefully. This is a strong oxidizer. Avoid organics + combustible materials, contact may cause ignition + a fire. This material can be used in WWTS treatment for TOC + phenol. Avoid Acids.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

ph 11-13

8. **Management for Product Recovered/Recycled (if applicable):**

Reuse on yard. Store with other drums of bleach. Mark drums "Oxidizer", "Bleach". Keep drums stored away from organics and combustible materials. Contact can cause ignition and a fire. Avoid Acids.

EPAHO107000106

UNIVAR USA - MSDS Univar USA Inc.
6100 Carillon Point
Kirkland, WA 98033
(425) 889-3400

For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

==========

The Version Date for this MSDS is : 10/19/2004

PRODUCT NAME:	LIQUICHLOR / SODIUM HYPOCHLORITE 9-16%
MSDS NUMBER:	OX622680
EFFECTIVE DATE:	2/16/2004
SUPERSEDES:	1/15/2003
ISSUED BY:	007427

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium Hypochlorite Solution (9 - 16%)
CAS#: 7681-52-9
Synonyms: Sodium Hypochlorite Solution - Trade % (9 - 19), Bleach, Javel Water, Clorox, Sunny Sol 150, Liquid Chlorine Solution, Liquid Bleach, Hypochlorite Bleach, Hypo
Product Use: Bleach, disinfectant
Emergency Contacts (24 hr.)
A FOR INFORMATION REGARDING ON SITE CHEMICAL EMERGENCIES INVOLVING A SPILL OR LEAK, CALL
U.S.: 1-800-424-9300 - CHEMTREC
Canada: 1-613-996-6666 - CANUTEC

Distributed by:
Univar USA Inc.
6100 Carillon Point
Kirkland, WA 98033
425-889-3400

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	% (w/w)	ACGIH	OSHA	CAS NO.
Sodium Hypochlorite	9 - 16	Not established 0.5 ppm (as chlorine)	Not established	7681-52-9
Sodium Hydroxide	0.3 - 4	2 mg/m3 (ceiling)	2 mg/m3	1310-73-2
Non Hazardous Ingredient				
Water	80-90.7	Not established		7732-18-5

SECTION 3 HAZARD IDENTIFICATION

Emergency Overview: CORROSIVE! Contact with acid liberates toxic chlorine gas. Causes burns to skin, eyes, respiratory tract and mucous membranes. Harmful or fatal if swallowed. May cause sensitization by skin contact. Toxic to aquatic organisms. Read the entire MSDS for a more thorough evaluation of the hazards.
Potential Health Effects:
Inhalation: Mist can irritate the nose and throat. If mixed with acids, hypochlorite solutions release large amounts of chlorine gas. This gas can

cause severe irritation of the nose and throat. Exposure to high levels of chlorine gas may result in severe lung damage.
Skin Contact: Sodium hypochlorite mist and solutions can cause skin irritation. In severe cases, chemical burns may result.
Eye Contact: Can cause severe eye irritation and permanent eye injury.
Ingestion: May cause irritation, pain and inflammation of the mouth and stomach, vomiting, shock, confusion, delirium, coma and, in severe cases, death. Perforation of the esophagus or stomach may occur.

Subchronic Effects: SKIN: Prolonged or repeated skin contact with solutions containing as little as 4-6% sodium hypochlorite can cause allergic contact dermatitis. Symptoms include chronic, itchy eczema. Sensitized people can react to very dilute (0.04-0.06% NaOCl) solutions that touch their skin
Existing Medical Conditions Possibly Aggravated by Exposure: Skin irritation may be aggravated in individuals with existing skin lesions. Breathing of vapors or mists may aggravate acute or chronic asthma and chronic pulmonary disease such as emphysema and bronchitis.
Carcinogenicity: Sodium hypochlorite is not classified as a carcinogen by ACGIH (American Conference of Governmental Industrial Hygienists) or IARC (International Agency for Research on Cancer), not regulated as a carcinogen by OSHA (Occupational Safety and Health Administration), and not listed as a carcinogen by NTP (National Toxicology Program).

SECTION 4 FIRST AID MEASURES
General: If you feel unwell seek medical advice (show the label where possible).
Inhalation: Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Do not use mouth-to-mouth method if victim ingested or inhaled the substance: induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Give Cardiopulmonary Resuscitation (CPR) only if there is no pulse AND no breathing. Obtain medical attention IMMEDIATELY.
Skin Contact: Immediately flush skin with running water for at least 15 - 20 minutes. Under running water remove contaminated clothing, jewelry, and shoes. If irritation persists, repeat flushing. For burns, obtain medical attention. Discard heavily contaminated clothing and shoes in a manner, which limits further exposure. Otherwise, wash clothing separately before reuse.
Eye Contact: Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.
Ingestion: DO NOT INDUCE VOMITING. If victim is alert and not convulsing, rinse mouth and give as much water as possible to dilute material. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. IMMEDIATELY transport victim to an emergency facility.
Note to Physicians: Symptomatic. Treatment and supportive therapy as indicated. Do NOT give acidic antidotes such as juice, soft drink, vinegar, etc. This product contains materials that may cause severe pneumonitis if aspirated. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage; use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed. Following exposure the patient should be kept under medical review for at least 48 hours as delayed pneumonitis may occur. Pulmonary edema is likely and may be delayed. Steroid therapy, if given early, may be effective in preventing or alleviating edema.

SECTION 5 FIRE FIGHTING MEASURES
Flash Point Not applicable. Not combustible
Flammable Limits (Lower) Not applicable

EPAHO107000108

Flammable Limits (Upper) Not applicable
Auto Ignition Temperature Not applicable
Combustion and Thermal Decomposition Products Chlorine, sodium oxide, oxygen
Rate of Burning Not applicable
Explosive Power Not applicable
Sensitivity to Mechanical Impact Not applicable

Fire and Explosion Hazards: Sodium hypochlorite is a strong chemical oxidant, but solutions do not support combustion. Reaction with nitrogen compounds, chloroorganic compounds, or easily oxidizable compounds (reducing agents) may be explosive. This material is non-flammable but is decomposed by heat and light, causing a pressure build-up, which could result in an explosion. When heated, it may release chlorine gas. Vigorous reaction with oxidizable or organic materials may result in fire. See Section 10.
Extinguishing Media: For large fires use an all purpose type AFFF alcohol foam resistant medium expansion according to foam manufacturer's recommended techniques. The foam supplier should be consulted for recommendations regarding foam types and delivery rates for specific applications. Use carbon dioxide or dry chemical media for small fires. If only water is available, use it in the form of a fog.
Special Information: Water may be used to cool containers of Hypochlorite solution exposed to heat from a fire. This should be done from a safe distance since containers may rupture.
Move containers from fire area if you can do it without risk. Dike fire control water for later disposal; do not scatter the material.
Fire involving tanks or trailer loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from the ends of tanks.
Evacuation: If tank or tank truck involved in a fire, ISOLATE and consider evacuation of one-half (1/2) mile radius.
Fire Fighting Protective Equipment: Firefighters should wear protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode in a fire involving this material. Toxic gas and vapors are produced upon decomposition.
NOTE: Also see "Section 10 - Stability and Reactivity"

SECTION 6 - ACCIDENTAL RELEASE MEASURES
Spills, Leaks, or Releases:
Restrict access to area until completion of clean up. Ensure trained personnel conduct clean up.
Remove all ignition sources (no smoking, flares, sparks or flames). All equipment should be grounded and non-sparking. Ventilate area.
Wear adequate personal protective equipment. Do not touch spilled material.
Stop leak if possible without personal risk.
Small spills: Cover with DRY earth, sand or other non-combustible material. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Rinse area with water.

Large spills: Prevent entry into sewers and confined areas. Dike with inert material (sand, earth, etc.). Contact fire and emergency services and supplier for advice. Collect product for recovery or disposal by pumping it into polyethylene containers. Consider in-situ neutralization and disposal. Ensure adequate decontamination of tools and equipment following clean up. Collect contaminated soil and water, and absorbent for proper disposal. Comply with Federal, Provincial/State and local regulations on reporting releases.
Deactivation for Small Spills: Hypochlorite can be broken down by covering it with a reducing agent such as sodium sulfite or sodium thiosulfate.
Deactivating Chemicals: Use sodium sulfite or diluted hydrogen peroxide to

EPAHO107000109

reduce the material. Ensure there is no chlorine residue before neutralizing with a weak solution of hydrochloric or sulfuric acid.
Waste Disposal Methods: Dispose of waste material at an approved waste treatment/disposal facility, in accordance with applicable regulations. Do not dispose of waste with normal garbage or to sewer systems.
Note: - Clean-up material may be a RCRA Hazardous Waste on disposal.
- Spills are subject to CERCLA reporting requirements: RQ = 100 lbs.

SECTION 7 - HANDLING AND STORAGE
Precautions: Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labeled. Wear appropriate Personal Protection Equipment. People working with this chemical should be properly trained regarding its hazards and its safe use.
Handling Procedures and Equipment: Avoid generating mist. Use smallest possible amounts in designated areas with adequate ventilation. Keep containers closed when not in use. Empty containers may contain hazardous residues. Use corrosion-resistant transfer equipment when dispensing.
Storage Requirements: Store in a cool, dry, well-ventilated area, out of direct sunlight. Store containers at 15 - 29 deg C (59 - 84 deg F). Do not store above 30 deg C (86 deg F) or below freezing point. Keep containers tightly closed when not in use and when empty. Protect from damage. Vent caps should be checked with full personal protection. Store away from incompatible materials such as reducing materials, strong acids, nitrogen compounds, copper, nickel and cobalt. Use corrosion-resistant structural materials and lighting and ventilation systems in the storage area. This product has a shelf life of up to six months at 60 deg F or lower.
Outdoor storage tanks should be suitably diked or otherwise provided with an adequate means of secondary containment. Appropriate secondary containment measures should be taken to prevent spills or leaks from indoor storage tanks and tank-truck unloading stations from entering sewers or other channels that discharge directly to a water body or a municipal sewage system.

SECTION 8 - EXPOSURE CONTROLS t PERSONAL PROTECTION PREVENTIVE MEASURES
Recommendations listed in this section indicate the type of equipment, which will provide protection against over exposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering Controls: Local exhaust ventilation should be applied wherever there is an incidence of point source emissions or dispersion of regulated contaminants in the work area. Ventilation control of the contaminant as close to its point of generation is both the most economical and safest method to minimize personnel exposure to airborne contaminants. The most effective measures are the total enclosure of processes and the mechanization of handling procedures to prevent all personal contact. Smoking should be prohibited in areas in which sodium hypochlorite solution is stored or handled.

PERSONAL PROTECTIVE EQUIPMENT
Eye Protection: Wear splash resistant chemical goggles and full-face shield. Maintain eye wash fountain and quick-drench facilities in work area.
Skin Protection: Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coveralls, as appropriate, to prevent skin contact.
RECOMMENDED (resistance to breakthrough longer than 8 hours): butyl rubber, natural rubber, neoprene, nitrile rubber, polyethylene, Viton, SaranexTM, ResponderTM
Recommendations are valid for permeation rates reaching 0.1 ug/cm2/min or 1 mg/m2/min and over. Resistance of specific materials can vary from product to product. Breakthrough times are obtained under conditions of continuous contact, generally at room temperature. Evaluate resistance under conditions of use and maintain clothing carefully.

EPAHO107000110

Respiratory Protection: A NIOSH/MSHA approved air-purifying respirator equipped with acid mist cartridges for concentrations up to 10 times the TLV. Use a supplied air respirator if concentrations are higher or unknown.

EXPOSURE GUIDELINES PRODUCT:
Sodium Hypochlorite
Workplace environmental exposure level guides (WEELS) / American Industrial Hygiene Association (AIHA) / 2001 short-term time weighted average ;
2 mg/m3: 15 minute

	Sodium Hypochlorite	Chlorine*	Sodium Hydroxide
ACGIH TWA	Not established	0.5 ppm	Not established
OSHA PEL	Not established	0.5 ppm	2 mg/m3
NIOSH IDLH	Not established	10 ppm	Not established
ACGIH STEL	Not established	1 ppm	Not established
OSHA STEL	Not established	1 ppm as Cl2	Not established
NIOSH (15 min. ceiling)	Not established	0.5 ppm	Not established
ACGIH Ceiling	Not established	Not established	2 mg/m3

* Chlorine may be present as a decomposition product.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES
Chemical Name Sodium hypochlorite
Chemical Family Hypochlorous acid salt
Molecular Formula Na-O-Cl
Molecular Weight 74.4
Appearance Green to yellow, watery liquid
Odor Pungent chlorine-like odor
PH 11-13
Vapor Pressure (mm Hg at 21 deg C(69.8 deg F) 12 mmHg
Vapor Density (Air = 1) No data
Boiling Point Decomposes above 40 deg C (104 deg F)
Freezing Point 7.5 deg F (-13.6 deg C)
Solubility (Water) Completely
Specific Gravity About 1.198 (12.5% w/w solution) @ 20 deg C (68 deg F)
Evaporation Rate Not available
% Volatile by Volume Not available

SECTION 10 - STABILITY AND REACTIVITY
Chemical Stability: Stable at room temperature.
Hazardous Decomposition Products: Thermal decomposition: Chlorine, sodium oxide, oxygen, oxides of chlorine, sodium chlorate, and hydrogen.
Conditions to Avoid: Keep away from high heat, and sunlight or ultra-violet light. Do not store above 30 deg C (86 deg F). Do not allow solutions to evaporate dry. Keep away from incompatibles.
Incompatibility with other Substances: May react violently with strong acids producing chlorine gas, which is toxic. Other incompatibles include organic material, cellulose, oxidizable materials, ammonia, urea, ammonium salts, ethyleneimine, cyanides, nitrogen compounds, alcohols, metals, and metal oxides. Reacts with metals to produce flammable hydrogen gas. Metal and metal oxide catalysts decompose hypochlorites, evolving oxygen and often causing explosions. May react explosively with nitrogen containing compounds or form chloroamines, which are explosive. Alkaline hypochlorite solutions may react explosively with some chloroorganic compounds.
Corrosivity to Metals: Solutions can be corrosive to many metals.
Hazardous Polymerization: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION
TOXICOLOGICAL DATA
Sodium Hypochlorite:
Toxicity Data: TDLo (Lowest published toxic dose) oral-woman- 1 gm/kg
45 mg/kg intravenous-man TDLo
LD50 oral rat- 8910 mg/kg

EPAHO107000111

LD50 oral mouse- 5800 mg/kg
LC50 rat- >10500 mg/m3 (1 hr)

Irritation Data: Eyes: One drop of 15% solution (pH 11.2) caused immediate severe pain. If not quickly washed off with water, it caused bleeding and swelling of the tender tissue surrounding the eye (conjunctiva) and damage with swelling to the front part of the eye (cornea). The eyes sometimes healed in two to three weeks with slight or no scar damage to the cornea. Skin: A solution of 3.5% NaOCl applied to rabbit skin for 15 or 30 minutes caused severe skin damage.

Sodium Hydroxide:
Irritation data: 500 mg/24 hour(s) skin-rabbit severe; 400 pg eyes-rabbit mild; 1 percent eyes-rabbit severe;
Toxicity data: 1350 mg/kg skin-rabbit LD50; 104-340 mg/kg oral-rat LD50
Mutagenicity: Sodium hypochlorite caused mutations in several short-term studies using bacteria and cultured mammalian cells. The significance of these tests is unclear. It was not mutagenic in tests (chromosome aberration and micronucleus) on live animals.
Reproductive Effects: High doses of NaOCl in drinking water caused a small but significant increase in abnormal sperm in mice.
Teratogenicity and Fetotoxicity: No data available
Carcinogenicity: See Section 3, page 2.
Synergistic Materials: None known

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicological Information: Harmful to aquatic life in low concentrations.
Fish Toxicity: LC50 (48 hr) rainbow trout 0.07 mg/l.
LC50 (96 hr) fathead minnow 5.9 mg/l.
Invertebrate and Microbial Toxicity: LOEC Oncorhynchus kisutch 0.02 mg/l.
Persistence and Degradation: No data available.

SECTION 13- DISPOSAL CONSIDERATIONS
Review federal, state and local government requirements prior to disposal. Do not dispose of waste with normal garbage, or to sewer systems. Whatever cannot be saved for recovery or recycling, including containers should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options.
RCRA: Test waste material for corrosivity, D002, prior to disposal.

SECTION 14 TRANSPORT INFORMATION

	TDG CLR *	DOT
Shipping Name	Hypochlorite Solution - with more than 7 percent available chlorine	Hypochlorite Solution
Hazard Class / Division	8: Corrosive	8: Corrosive
Identification No.	UN1791	UN1791
	II	III
ERAP/RQ	N/AP	N/AP

Note: * TDG CLR (Clear Language Regulations) became effective August 15, 2002
IATA/ICAO Shipping Description: Hypochlorite solution, Class 8, UN1791, PG II or III is accepted for air transport.

SECTION 15 - REGULATORY INFORMATION
USA CLASSIFICATION
OSHA Classification: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)
SARA Regulations sections 313 and 40 CFR 372: N

EPAHO107000112

SARA Hazard Categories, SARA SECTIONS 311/312 (40CFR370.21):
ACUTE: Y
CHRONIC: N
FIRE: N
REACTIVE: N
SUDDEN RELEASE: N
OSHA PROCESS SAFETY (29CFR1910.119): N

CERCLA SECTION 103 (40CFR302.4): Y

Reportable Quantity (RQ) under CERCLA: 100 lbs. (45.4 kg)

TSCA Inventory Status: Y

Other Regulations/Legislation which apply to this product:
Right-to-Know/Disclosure Lists: Illinois, Massachusetts, New Jersey, Pennsylvania,

This product does not contain nor is it manufactured with ozone depleting substances.

CANADIAN CLASSIFICATION
This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all the information required by the CPR.
Controlled Products Regulations (WHMIS) Classification:
D2B: Material causing other toxic effects -Toxic
E: Corrosive

CEPA / Canadian Domestic Substances List (DSL): Y
WHMIS Ingredient Disclosure List: Meets criteria for disclosure at 1% or greater.

EINECS Number: 231-668-3

SECTION 16 - OTHER INFORMATION

National Fire Protection Association (NFPA) Rating
Hazardous Materials Identification System (HMIS) Rating

	NFPA	HMIS	
			4 = Extreme/Severe
HEALTH	3	3	3 = High/Serious 2 = Moderate
FIRE	0	0	1 = Slight
REACTIVITY	1	1	0 = Minimum
			W = Water Reactive

LEGEND
ACGIH - American Conference of Governmental Industrial Hygienists
CAS # - Chemical Abstracts Service Registry Number
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
CFR - Code of Federal Regulations
DOT - Department of Transportation
EPA - Environmental Protection Agency
IDLH - Immediately Dangerous to Life and Health
LC50 - The concentration of material in air expected to kill 50% of a group of test animals
LD50 - Lethal Dose expected to kill 50% of a group of test animals
MSHA - Mine Safety and Health Administration
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety & Health Administration
PEL - Permissible Exposure Limit
PVC - Polyvinyl chloride

EPAHO107000113

RCRA - Resource Conservation and Recovery Act
SARA - Superfund Amendments and Reauthorization Act of the U.S. EPA
STEL - Short Term Exposure Limit
TDG - Transportation of Dangerous Goods Act/Regulations
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act

For Additional Information:
Contact: MSDS Coordinator - Univar USA
During business hours, Pacific Time - (425) 889-3400

NOTICE
Univar USA expressly disclaims all express or implied warranties of merchantibility and fitness
for a particular purpose with respect to the product or information provided herein, and shall
under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product
specification. For product specification information refer to a Product Specification Sheet and/or
a Certificate of Analysis. These can be obtained from your local Univar USA Sales Office.

All information appearing herein is based upon data obtained from the manufacturer and/or
recognized technical sources. While the information is believed to be accurate, Univar USA
makes no representations as to its accuracy or sufficiency. Conditions of use are beyond Univar
USA's control. Therefore, users are responsible to verify this data under their own operating
conditions to determine whether the product is suitable for their particular purposes, and they
assume all risks of their use, handling, and disposal of the product or from the publication or use
of, or reliance upon, information contained herein. This information relates only to the product
designated herein and does not relate to its use in combination with any other material or in any
other process.

END OF MSDS

EPAHO107000114

MATERIAL SAFETY DATA SHEET

Hydrogen Peroxide (20 to 40%)

MSDS Ref. No.: 7722-84-1-3
Date Approved: 04/27/2006
Revision No.: 10

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazardous Materials Information System (WHMIS) and, the EC Directive, 2001/58/EC.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Hydrogen Peroxide (20 to 40%)

ALTERNATE PRODUCT NAME(S): Durox® Reg. & LR 35%, Oxypure® 35%, Standard 27.5 & 35%, Super D® 25 & 35, Technical 35%, HTP 35%, OHP 35%, Chlorate Grade, 20%, Semiconductor Reg, Seg, RGS, RGS 2, RGS 3, 31%

GENERAL USE:

Durox® 35% Reg. & LR - meets the Food Chemical Codex requirements for aseptic packaging and other food related applications.

Oxypure® 35% - certified by NSF to meet NSF/ANSI Standard 60 requirements for drinking water treatment.

Standard 27.5 and 35% - most suitable grade for industrial bleaching, processing, pollution abatement and general oxidation reactions.

Semiconductor Reg, Seg, RGS, RGS 2, RGS 3, 31% - conform to ACS and Semi Specs. for wafer etching and cleaning, and applications requiring low residues.

Super D® 25 and 35% - meets US Pharmacopoeia specifications for 3% topical solutions when diluted with proper quality water. While manufactured to the USP standards for purity and to FMC's demanding ISO 9002 quality standards, FMC does not claim that it's Hydrogen Peroxide is manufactured in accordance with all pharmaceutical cGMP conditions.

Technical 35% - essentially free of inorganic metals suitable for chemical synthesis.

HTP 35% - specially formulated for aerospace equipment conditioning.

OHP 35% - specially formulated for OHP process, advanced oxidation, and activated peroxide applications

Chlorate Grade 20% - specially formulated for use in chlorate manufacture or processing.

EPAHO107000115

2607 Shell Global
2607

EPAHO1070000116

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Material / Product Approval Letter

Date **1/31/2008**

Dear **Juan Mendez**

Thank you for choosing CES Environmental Services, Inc. for your material / product recycling needs. The following material has been approved at our facility in Houston, TX. If the material received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2607

Expiration Date 1/30/2010

Producer: Shell Global
Address: 780 Clinton Drive
Galena Park, TX 77547

Material / Product Information

Name of Material / Product Unused hydrogen peroxide
Container Type:

Detailed Description of Process Generating or Producing the Material / Product:
Unused hydrogen peroxide 35%

Color: Clear **Odor:** none **pH:** 3-4
Physical State:

Incompatibilities: Combustible materials; 'ORGANICS; ACIDS'; see section 6 of MSDS; see section 10 of MSDS

Safety Related Data/Special Handling:
std PPE

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP see notes

CES Environmental Services, Inc.

4904 Griggs Road **Houston, TX 77021**
Phone: (713) 676-1460 **Fax: (713) 676-1676**
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 **ISWR No: 30900**

gp

SECTION 1: Material Producer Information

Company:	Shell Lubricants		
Address:	780 Clinton Drive (P.O. Box 4427, Houston, TX 77210)		
City, State, Zip:	Galena Park, TX 77547		
Contact:	Brenda Clark, P.E., DEE, CHMM, REM	**Title:**	Regional & Environmental Engineer
Phone No:	713-546-6923	**Fax No:**	713-546-8505
24/hr Phone:	713-546-8505		
U.S. EPA I.D. No:	TXD150364289		
State I.D.	39781	**SIC Code:**	NA

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Material / Product

Name of Material / Product: Unused Hydrogen peroxide
Detailed Description of Process Generating or Producing the Material / Product: Unused Hydrogen Peroxide 35%

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: clear **Odor:** none

Specific Gravity (water=1): 1.11 **Density:** 8-9 lbs/gal

Does this material contain any total phenolic compounds? ☐ **Yes** ☒ **No**

Does this material contain any para substituted phenolic compounds? ☐ **Yes** ☒ **No**

Layers: ☒ **Single-phase** ☐ **Multi-phase**

Container Type:	☒	**Drum**	☐ **Tote**	☐	**Truck**	☐	**Other (explain)**
Container Size:		55 gal	____		____		____

Frequency: ☐ **Weekly** ☐ **Monthly** ☐ **Quarterly** ☒ **Yearly**
Number of Units (containers): 1 **Other:** ____

Proper U.S. DOT Shipping Name: Product Hydrogen Peroxide, aqueous solutions with not less than 20% but not more than 40% hydrogen peroxide

Class: 5.1 (oxidizer) **UN/NA:** UN2014 **PG:** II **RQ:** ~~N/A~~ 100

EPAHO107000118

Flash Point	pH	N/A	N/A	Solids
N/A	3-4			0%

Oil&Grease	TOC	Zinc	Copper	Nickel
N/Amg/l	N/Amg/l	N/Amg/l	N/Amg/l	N/Amg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The material / product consists of the following materials	Concentration Ranges are acceptable	Units or %
Hydrogen Peroxide	20-40	%
Water	60-80	%

SECTION 5: Safety Related Data

If the handling of this material / product requires the use of special protective equipment, please explain.
standard PPE.

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the material / product profile.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
N/A

SECTION 8: Material Producer's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: N/A **Date:** ____

Printed Name/Title: none required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Technical Manager: Barbara Reynolds Date: 1-30-08 (Approved) Rejected Approval Number: 2607	

EPAHO107000119

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

no charge for disposal. trans charge only.

2. **Contamination Limits (maximum limit before surcharges apply):**

N/A

3. **Surcharge Pricing:**

N/A

4. **Special Testing Requirements:**

~~none~~ pH, TOC + metals

5. **Treatment and Handling Protocol:**

N/A Handle very carefully. Avoid Organics + combustible materials. This is a very strong oxidizer. Contact with Organics or combustible materials can cause these materials to ignite and cause a fire. this material can be used in small gallon quantities to oxidize TOC in the wells.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO107000120

7. **Tests for Product Recovered/Recycled (if applicable):**

N/A

8. **Management for Product Recovered/Recycled (if applicable):**

~~store with other odorizers~~. can be used on stinky streams to reduce odor if compatible.
No - will react (potentially violent) with organics. Keep material in drum for use. Can be used in small volumes for oxidizing TOC in the WWTS.
Avoid organics + combustible materials, contact can ignite + cause a fire.
Mark the containers "Oxidizer", "Hydrogen Peroxide".
Keep drums away for organic + combustible materials.

EPAHO107000121

MANUFACTURER

FMC CORPORATION
FMC Peroxygens
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)

FMC of Canada Ltd.
FMC Peroxygens
PG Pulp Mill Road
Prince George, BC V2N2S6
(250) 561-4200 (General Information)

EMERGENCY TELEPHONE NUMBERS

(281) 474-8750 (Plant: Pasadena, TX, US - Call Collect)
(250) 561-4221 (Plant: Prince George, BC, Canada - Call Collect)
(303) 595-9048 (Medical - U.S. - Call Collect)

For leak, fire, spill, or accident emergencies, call:
(800) 424-9300 (CHEMTREC - U.S.A.)
(613) 996-6666 (CANUTEC - Canada)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- Clear, colorless, odorless liquid
- Oxidizer.
- Contact with combustibles may cause fire.
- Decomposes yielding oxygen that supports combustion of organic matters and can cause overpressure if confined.
- Corrosive to eyes, nose, throat, lungs and gastrointestinal tract.

POTENTIAL HEALTH EFFECTS: Corrosive to eyes, nose, throat and lungs. May cause irreversible tissue damage to the eyes including blindness. May cause skin irritation.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Hydrogen Peroxide	7722-84-1	20 - 40	231-765-0	Xn, R22-37/38-41
Water	7732-18-5	60 - 80	231-791-2	Not classified

EPAHO107000122

4. FIRST AID MEASURES

EYES: Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.

SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

INGESTION: Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

NOTES TO MEDICAL DOCTOR: Hydrogen peroxide at these concentrations is a strong oxidant. Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. There is a remote possibility, however, that a nasogastric or orogastric tube may be required for the reduction of severe distension due to gas formation.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Flood with water.

FIRE / EXPLOSION HAZARDS: Product is non-combustible. On decomposition releases oxygen which may intensify fire.

FIRE FIGHTING PROCEDURES: Any tank or container surrounded by fire should be flooded with water for cooling. Wear full protective clothing and self-contained breathing apparatus.

FLAMMABLE LIMITS: Non-combustible

SENSITIVITY TO IMPACT: No data available

SENSITIVITY TO STATIC DISCHARGE: No data available

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Dilute with a large volume of water and hold in a pond or diked area until hydrogen peroxide decomposes. Hydrogen peroxide may be decomposed by adding sodium metabisulfite or sodium sulfite after diluting to about 5%. Dispose according to methods outlined for waste disposal.

EPAHO107000123

Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire.

7. HANDLING AND STORAGE

HANDLING: Wear chemical splash-type monogoggles and full-face shield, impervious clothing, such as rubber, PVC, etc., and rubber or neoprene gloves and shoes. Avoid cotton, wool and leather. Avoid excessive heat and contamination. Contamination may cause decomposition and generation of oxygen gas which could result in high pressures and possible container rupture. Hydrogen peroxide should be stored only in vented containers and transferred only in a prescribed manner (see FMC Technical Bulletins). Never return unused hydrogen peroxide to original container, empty drums should be triple rinsed with water before discarding. Utensils used for handling hydrogen peroxide should only be made of glass, stainless steel, aluminum or plastic.

STORAGE: Store drums in cool areas out of direct sunlight and away from combustibles. For bulk storage refer to FMC Technical Bulletins.

COMMENTS: VENTILATION: Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into the work environment.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Hydrogen Peroxide	1 ppm (TWA)	1 ppm (PEL)	

ENGINEERING CONTROLS: Ventilation should be provided to minimize the release of hydrogen peroxide vapors and mists into the work environment. Spills should be minimized or confined immediately to prevent release into the work area. Remove contaminated clothing immediately and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Use chemical splash-type monogoggles and a full-face shield made of polycarbonate, acetate, polycarbonate/acetate, PETG or thermoplastic.

RESPIRATORY: If concentrations in excess of 10 ppm are expected, use NIOSH/DHHS approved self-contained breathing apparatus (SCBA), or other approved atmospheric-supplied respirator (ASR) equipment (e.g., a full-face airline respirator (ALR)). DO NOT use any form of air-purifying respirator (APR) or filtering facepiece (AKA dust mask), especially those containing oxidizable sorbants such as activated carbon.

EPAHO107000124

PROTECTIVE CLOTHING: For body protection wear impervious clothing such as an approved splash protective suit made of SBR Rubber, PVC (PVC Outershell w/Polyester Substrate), Gore-Tex (Polyester trilaminate w/Gore-Tex), or a specialized HAZMAT Splash or Protective Suite (Level A, B, or C). For foot protection, wear approved boots made of NBR, PVC, Polyurethane, or neoprene. Overboots made of Latex or PVC, as well as firefighter boots or specialized HAZMAT boots are also permitted. DO NOT wear any form of boot or overboots made of nylon or nylon blends. DO NOT use cotton, wool or leather, as these materials react RAPIDLY with higher concentrations of hydrogen peroxide. Completely submerge hydrogen peroxide contaminated clothing or other materials in water prior to drying. Residual hydrogen peroxide, if allowed to dry on materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire.

GLOVES: For hand protection, wear approved gloves made of nitrile, PVC, or neoprene. DO NOT use cotton, wool or leather for these materials react RAPIDLY with higher concentrations of hydrogen peroxide. Thoroughly rinse the outside of gloves with water prior to removal. Inspect regularly for leaks.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR:	Odorless
APPEARANCE:	Clear, colorless liquid
AUTOIGNITION TEMPERATURE:	Non-combustible
BOILING POINT:	103°C/218°F (20%); 107°C/225°F (31%); 108°C/226°F (35%)
COEFFICIENT OF OIL / WATER:	Not available
DENSITY / WEIGHT PER VOLUME:	Not available
EVAPORATION RATE:	Above 1 (Butyl Acetate = 1)
FLASH POINT:	Non-combustible
FREEZING POINT:	-15°C/6°F (20%); -26°C/-15°F (31%); -33°C/-27°F (35%)
ODOR THRESHOLD:	Not available
OXIDIZING PROPERTIES:	Strong oxidizer
PERCENT VOLATILE:	100%
pH:	(as is) < / = 3.7
SOLUBILITY IN WATER:	(in H_2O % by wt) 100%
SPECIFIC GRAVITY:	1.07 @ 20°C/4°C (20%); 1.11 @ 20°C/4°C (31%); 1.13 @ 20°C/4°C (35%)
VAPOR DENSITY:	(Air = 1): Not available
VAPOR PRESSURE:	28 mmHg @ 30°C (20%); 24 mmHg @ 30°C (31%); 23 mmHg @ 30°C (35%)

COMMENTS:

pH (1% solution) @ 25°C: 5.0 - 6.0

EPAHO107000125

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat or contamination could cause product to become unstable.
STABILITY:	Stable (heat and contamination could cause decomposition)
POLYMERIZATION:	Will not occur
INCOMPATIBLE MATERIALS:	Reducing agents, wood, paper and other combustibles, iron and other heavy metals, copper alloys and caustic.
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxygen which supports combustion.

COMMENTS: Materials to Avoid : Dirt, organics, cyanides and combustibles such as wood, paper, oils, etc.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: 35% hydrogen peroxide: Extremely irritating/corrosive (rabbit) [FMC Study Number: I83-748]

SKIN EFFECTS: 35% hydrogen peroxide: Mildly irritating after 4-hour exposure (rabbit) [FMC Study Number: I83-747]

DERMAL LD_{50}: 35% hydrogen peroxide: > 2,000 mg/kg (rabbit) [FMC Study Number: I83-746]

ORAL LD_{50}: 35% hydrogen peroxide: 1,193 mg/kg (rat) [FMC Study Number: I83-745]

INHALATION LC_{50}: 50% hydrogen peroxide: > 0.17 mg/l (rat) [FMC Study Number: I89-1080]

TARGET ORGANS: Eyes, nose, throat and lungs

ACUTE EFFECTS FROM OVEREXPOSURE: Extremely irritating/corrosive to eyes and gastrointestinal tract. May cause irreversible tissue damage to the eyes including blindness. Inhalation of mist or vapors may be severely irritating to nose, throat and lungs. May cause skin irritation.

CHRONIC EFFECTS FROM OVEREXPOSURE: The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence for carcinogenicity of hydrogen peroxide in humans, but limited evidence in experimental animals (Group 3 - not classifiable as to its carcinogenicity to humans). The American Conference of Governmental Industrial Hygienists (ACGIH) has concluded that hydrogen peroxide is a 'Confirmed Animal Carcinogen with Unknown Relevance to Humans' (A3).

EPAHO107000126

CARCINOGENICITY:

Chemical Name	IARC	NTP	OSHA	Other
Hydrogen Peroxide	Listed	Not listed	Not listed	(ACGIH) Listed (A3, Animal Carcinogen)

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: Channel catfish 96-hour LC_{50} = 37.4 mg/L
Fathead minnow 96-hour LC_{50} = 16.4 mg/L
Daphnia magna 24-hour EC_{50} = 7.7 mg/L
Daphnia pulex 48-hour LC_{50} = 2.4 mg/L
Freshwater snail 96-hour LC_{50} = 17.7 mg/L
For more information refer to ECETOC "Joint Assessment of Commodity Chemicals No. 22, Hydrogen Peroxide." ISSN-0773-6339, January 1993

CHEMICAL FATE INFORMATION: Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Hydrogen peroxide half-life in freshwater ranged from 8 hours to 20 days, in air from 10-20 hrs. and in soils from minutes to hours depending upon microbiological activity and metal contaminants.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: An acceptable method of disposal is to dilute with a large amount of water and allow the hydrogen peroxide to decompose followed by discharge into a suitable treatment system in accordance with all regulatory agencies. The appropriate regulatory agencies should be contacted prior to disposal.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PROPER SHIPPING NAME:	Hydrogen peroxide, aqueous solutions with not less than 20% but not more than 40% hydrogen peroxide
PRIMARY HAZARD CLASS / DIVISION:	5.1 (Oxidizer)
UN/NA NUMBER:	UN 2014
PACKING GROUP:	II
LABEL(S):	Oxidizer, Corrosive
PLACARD(S):	5.1 (Oxidizer)

EPAHO107000127

ADDITIONAL INFORMATION:

DOT Marking: Hydrogen Peroxide, aqueous solution with not less than 20%, but not more than 40% Hydrogen Peroxide, UN 2014

Hazardous Substance/RQ: Not applicable

49 STCC Number: 4918775

DOT Spec: stainless steel/high purity aluminum cargo tanks and rail cars. UN Spec: HDPE drums. Contact FMC for specific details.

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

PROPER SHIPPING NAME: Hydrogen peroxide, aqueous solutions with not less than 20%, but not more than 60% hydrogen peroxide.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

PROPER SHIPPING NAME: Hydrogen peroxide, aqueous solutions with not less than 20%, but not more than 40% hydrogen peroxide (*).

OTHER INFORMATION:

(*) Air regulations permit shipment of Hydrogen Peroxide (20 - 40%) in non-vented containers for Air Cargo Only aircraft, as well as for Passenger and Cargo aircraft. HOWEVER, all FMC Hydrogen Peroxide containers are vented and therefore, air shipments of FMC H_2O_2 is not permitted. IATA air regulations state that venting of packages containing oxidizing substances is not permitted for air transport.

Protect from physical damage. Keep drums in upright position. Drums should not be stacked in transit. Do not store drum on wooden pallets.

---

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):
Not listed

SECTION 311 HAZARD CATEGORIES (40 CFR 370):
Fire Hazard, Immediate (Acute) Health Hazard

EPAHO107000128

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):
The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.: None, (conc. <52%)

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):
Not listed

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):
Unlisted (Hydrogen Peroxide 20-40%); RQ = 100 lbs.; Ignitability, Corrosivity

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA INVENTORY STATUS (40 CFR 710):
Listed

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)
RCRA IDENTIFICATION OF HAZARDOUS WASTE (40 CFR 261):
Waste Number: D001, D002

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

Product Identification Number:	2014
Hazard Classification / Division:	Class C (Oxidizer), Class D, Div. 2, Subdiv. B. (Toxic), Class E (Corrosive)
Ingredient Disclosure List:	Listed

INTERNATIONAL LISTINGS

Hydrogen peroxide:

China: Listed
Japan (ENCS): (1)-419
Korea: KE-20204
Philippines (PICCS): Listed

HAZARD, RISK AND SAFETY PHRASE DESCRIPTIONS:

Hydrogen Peroxide, (Index #008-003-00-9):

EC Symbols: Xn (Harmful)

EPAHO107000129

EC Risk Phrases:	R22	(Harmful if swallowed.)
	R37/38	(Irritating to respiratory system and to skin.)
	R41	(Risk of serious damage to eyes.)
EC Safety Phrases:	S1/2	(Keep locked up and out of reach of children.)
	S3	(Keep in a cool place.)
	S17	(Keep away from combustible material.)
	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 and soap.)
	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.)

16. OTHER INFORMATION

HMIS

Health	3
Flammability	0
Physical Hazard	1
Personal Protection (PPE)	H

Protection = H (Safety goggles, gloves, apron, the use of a supplied air or SCBA respirator is required in lieu of a vapor cartridge respirator)

HMIS = Hazardous Materials Identification System

Degree of Hazard Code:
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

NFPA

Health	3
Flammability	0
Reactivity	1
Special	OX

SPECIAL = OX (Oxidizer)

NFPA = National Fire Protection Association

Degree of Hazard Code:

EPAHO107000130

4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

REVISION SUMMARY:
This MSDS replaces Revision #9, dated April 05, 2005.
Changes in information are as follows:
Section 1 (Product and Company Identification)
Section 16 (Other Information)

Durox, Oxypure, Super D and FMC Logo - FMC Trademarks

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EPAHO107000131

SOPUS 2608

2608

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/31/2008**

Dear **Brenda Clark**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2608

Expiration Date 1/31/2010

Generator: SOPUS Products (Shell Lub. Plant)
Address: 780 Clinton Drive
Galenda Park, TX 77547

Waste Information

Name of Waste: Electronic waste
TCEQ Waste Code #: UNIV320H
Container Type: pallet
Detailed Description of Process Generating Waste:
Out dated, non functional electronic waste
Color: varies **Odor:** none **pH:** na
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

To: Joy Baker

GR
see notes

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 39048
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	SOPUS Products		
Address:	780 Clinton Drive (P.O. Box 4427, Houston, TX 77210)		
City, State, Zip:	Galena Park, TX 77547		
Contact:	Brenda Clark	**Title:**	Regional Environmental Engineer
Phone No:	713-546-6923	**Fax No:**	713-546-8505
24/hr Phone:	713-546-8505		
U.S. EPA I.D. No:	TXD150364289		
State I.D.	39781	**SIC Code:**	2992

SECTION 2: Billing Information – ☐ Same as Above

Company:	SOPUS Products		
Address:	780 Clinton Drive		
City, State, Zip:	Galena Park, TX 77547		
Contact:	Chris Cassidey	**Title:**	Security and Environmental Coordinator
Phone No:	713-277-3921	**Fax No:**	

SECTION 3: General Description of the Waste

Name of Waste: Electronic Waste
Detailed Description of Process Generating Waste: Out dated, non functional electronic waste

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☒ Solid ☐ Filter Cake ☐ Combination

Color: varies **Odor:** none

Specific Gravity (water=1): N/A **Density:** N/A lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☒ Other (explain) pallet
Container Size:

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly

Texas State Waste Code No: UNIV-320H

Proper U.S. DOT Shipping Name: Environmentally Hazardous substance, solid, n.o.s., UN3077

Class: 9 **UN/NA:** 3077 **PG:** III **RQ:** N/A

Flash Point ~~>150~~ N/A	**pH** ~~4-11~~ N/A	**Reactive Sulfides** ~~BRL mg/l~~ N/A	**Reactive Cyanides** ~~BRL mg/l~~ N/A	**Solids** 100%
Oil&Grease >100mg/l	**TOC** N/A ~~BRL mg/l~~	**Zinc** ~~BRL mg/l~~ N/A	**Copper** ~~BRL mg/l~~ N/A	**Nickel** ~~BRL mg/l~~ N/A

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Out dated, non functional electronic waste	90-100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
None

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
None

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: N/A
TCLP Volatiles: N/A
TCLP Semi-Volatiles: N/A
Reactivity: N/A
Corrosivity: N/A
Ignitability: N/A

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Brenda L. Clark **Date:** Jan. 31, 2008

Printed Name/Title: Brenda L. Clark / Regional Environmental Engineer

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature] Additional Information: _____

Date: 1-31-08 (Approved) Rejected _____

Approval Number: [signature] 2698 _____

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$175/pallet + trans + FSC

2. **Contamination Limits (maximum limit before surcharges apply):**

Reject PCB containing material

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

5. **Treatment and Handling Protocol:**

Be sure to document all details on BOL.
Send to Universal waste (lead spent) receipt site.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☐ Subcategory B ☐ Subcategory C

EPAHO107000138

7. Tests for Product Recovered/Recycled (if applicable):

8. Management for Product Recovered/Recycled (if applicable);

2609 TS 1
2609

EPAHO107000140

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 7702[illegible]60
Tel. (713) 67[illegible]6-1460
Fax. [illegible]

Waste Pre-Acceptance/Approval Letter

Date **1/31/2008**

Dear **Roy Turner**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2609

Expiration Date 2/6/2010

Generator: TSI
Address: 13609 Industrial Rd
Houston, TX 77513

Waste Information

Name of Waste: Non-RCRA wastewater
TCEQ Waste Code #: CESQ1192
Container Type:
Detailed Description of Process Generating Waste:
Cleaning of sludge from a railcar using hot water
Color: dark **Odor:** none **pH:** 6-8
Physical State:
Incompatibilities: strong oxidizing agents
Safety Related Data/Special Handling:
std

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP
Sec 9 need Gen. Knowl. box Checked. See notes. MSDS sheets are old - 1999 + 1991 + 2001. Is MSDS for NaBr complete? (3 pages?)

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	TSI		
Address:	13609 Industrial Rd		
City, State, Zip:	Houston, Texas 77513		
Contact:	Roy Turner	Title:	
Phone No:	(281)221-2162	Fax No:	713-453-1923
24/hr Phone:	(713) 826-1329		
U.S. EPA I.D. No:	TXCESQG		
State I.D.	CESQG	SIC Code:	N/A

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		Title:	
Phone No:		Fax No:	

SECTION 3: General Description of the Waste

Name of Waste: Non-RCRA Wastewater
Detailed Description of Process Generating Waste: Cleaning of sludge from a Railcar using hot water

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: dark Odor: none

Specific Gravity (water=1): 1 Density: 8.34 lbs/gal

Does this material contain any total phenolic compounds? ☐ Yes ☒ No

Does this material contain any para substituted phenolic compounds? ☐ Yes ☒ No

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☒ Truck ☐ Other (explain)
Container Size: ____ ____ 6000 gal ____

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly
Number of Units (containers): 1 Other: ____
Texas State Waste Code No: CESQ1192
Proper U.S. DOT Shipping Name: Non- RCRA Wastewater
Class: - na UN/NA: - na PG: - na RQ: - na

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>150	6-8	0mg/l	0mg/l	2-5%

Oil&Grease	TOC	Zinc	Copper	Nickel
1500mg/l	1600mg/l	0mg/l	0mg/l	0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Palmitic Acid	1-3	%
Sodium Bromide	1-3	%
Dodecyl Alcohol	1-3	%
Water	91-97	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

std

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
MSDS for the following: Palmitic acid, GR ACS Sodium Bromide Metts ACS specification, Dodecyl Alcohol.

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Strong oxidizing agents

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Gregg Joiner **Date:** 2/6/08

Printed Name/Title: Gregory Joiner

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Reynolds

Date: 2-6-08 (Approved) Rejected

Approval Number: 2609

EPAHO107000143

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☒ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☒ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000144

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☒ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000145

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$.19/gallon
$69 plus FSC

2. **Contamination Limits (maximum limit before surcharges apply):**

May be emulsified, TOC on treated water must be less than 15,000 and solids less than 5%

3. **Surcharge Pricing:**

4. **Special Testing Requirements:**

pH, TOC, phenol, Flash Point

5. **Treatment and Handling Protocol:**

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☒ Subcategory B ☐ Subcategory C

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

7. **Tests for Product Recovered/Recycled (if applicable):**

oils subcategory discharge

8. **Management for Product Recovered/Recycled (if applicable):**

Any oils recovered to black oil.

EPAHO107000147

Procter & Gamble Chemicals

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Name	CAS NO.	EINECS NO.
Hexadecanoic acid	57-10-3	2003129

V1695

- Synonyms/Trade Names: Palmitic Acid / V-1695
- Company Identification: The Procter & Gamble Company
  Procter & Gamble Chemicals
  Sharon Woods Technical Center
  11530 Reed Hartman Highway
  Cincinnati, Ohio 45241
- Emergency Phone Number:

P&G Ltd. - Brooklands, England:	Tel 01932-896000 (day phone) Emergency 0191-279-2000 (day phone)
CHEMTREC	1-800-424-9300 U.S. and Canada 1-703-527-3887 For calls originating elsewhere
For Quality or Service Issues:	Call Customer Service 1-800-477-8899 or 513-626-6882

- Date: December 1, 1999

2. COMPOSITION & INGREDIENTS

CHEMICAL NAME	% (typical)	CAS NO.	EXPOSURE LIMIT
hexadecanoic acid	97	57-10-3	Not established

HAZARDOUS INGREDIENTS - WHMIS
This product when tested as a whole is not a controlled substance within the meaning of the Hazardous Products Act.

3. HAZARDS IDENTIFICATION

- Emergency Overview: Potential combustible dust if flaked or powdered. Dust generated from flaked product will be combustible at sufficient concentration.
- Potential Health Effects:

Eye - Accidental exposure to the eyes will cause only a mild but transient irritation.

Skin - Mild, primary skin irritation with prolonged or repeated contact.
Heated product may cause thermal burns if contacted.

NAME: V-1695

3. HAZARDS IDENTIFICATION - CONTINUED

- Potential Health Effects (continued):

  Inhalation - Not applicable at ambient temperature. May elicit transient pulmonary irritation if inhaled.

  Ingestion - May cause irritation of gastrointestinal tract.

  If product is heated, vaporization can occur. Eye, skin, and upper respiratory irritation may occur.

- Physical/Chemical Hazards: Potential combustible dust if flaked or powdered. Dust generated from flaked product will be combustible at sufficient concentration.

- Environmental Hazards: None identified

4. FIRST AID MEASURES

- Eye - In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

- Skin - Wash skin with soap and water upon contact. Remove contaminated clothing. If irritation develops, get medical attention. Wash clothing before reuse.

- Inhalation - Avoid breathing dust. 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. Get medical attention. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

- Extinguishing Media: SMALL FIRES: Use CO_2 or dry chemical.
  LARGE FIRES: Use foam.
  Do not use water as an extinguishing media.

- Flash Point: >392° F (>200° C)

- Explosive Limits in air: Not determined

- Auto-ignition temperature: >482° F (>250° C)

- Other Fire Fighting Considerations: Wear self-contained breathing apparatus and full protective clothing. Cool containers with flooding quantities of water until well after fire is out. Potential combustible dust if flaked or powdered. Dust generated from flaked product will be combustible at sufficient concentration.

NAME: V-1695

6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions: An appropriate NIOSH/MSHA approved respirator should be used if a mist, vapor or dust is generated.
  Wear suitable gloves and eye/face protection.
  Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Environmental Precautions: Minimize contamination of drains, surface and ground waters.
- Procedures for Spill/Leak Clean-up: Sweep or shovel solids. For liquid spills, neutralization is not required. Contain spill. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for disposal. Dispose as any grease or oily material in compliance with Federal, State, and/or Local requirements.

7. HANDLING AND STORAGE

- Handling: Handle in accordance with good hygiene and safety procedures. Avoid contact with eyes, skin, and clothing.
  Wash thoroughly after handling. Prevent formation of dust.
  Since empty containers contain product residue, follow all hazard warnings and precautions even after container is emptied. Keep away from sources of ignition.
- Storage: Keep away from possible contact with incompatible substances.
  Store in acid resistant vessels such as stainless steel, aluminum, or steel coated with resin lining such as Lithcote LC-19 or Kanigen.
  Do not store near sources of ignition.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

- General Precautions: Good industrial hygiene should be followed.
  Avoid breathing (heated) vapors.
- Engineering Controls: Ventilation: Local exhaust - prefered
  Mechanical - may be necessary if working at elevated temperatures or in enclosed areas.
- Personal Protective Equipment:

Eye - Goggles or face shield with goggles, dependent upon potential exposure

Skin - Protective gloves: Rubber or plastic
Dependent upon degree of potential exposure, additional personal protective equipment may be required, such as chemical boots and full protective clothing.

Inhalation - None required for ambient temperature, although an appropriate NIOSH/MSHA approved air-purifying respirator should be used if a mist, vapor or dust is generated. A NIOSH/MSHA approved self-contained breathing apparatus or air-supplied respirator is recommended if the concentration exceeds the capacity of cartridge respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

NAME: V-1695

8. EXPOSURE CONTROLS, PERSONAL PROTECTION - CONTINUED

- Other Controls: Eye bath, safety shower, apron, protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State @ 72° F (22° C): Solid — Melting Point: Not determined

Color: Water white to yellowish — Boiling Point: 351.5-376° F (178-191° C) @ 760 mm Hg (101.3kPa)

Odor: Musty, fatty — Solubility in Water: None @ 68° F (20° C)

Volatility by volume (%): Not known — Vapor Pressure @ 329° F (165° C) 0.99 mm Hg

Specific Gravity (H_2O=1): 0.845 @ 75/25° C — Evaporation Rate (nBuOAc=1): Not known

Auto ignition temperature: >482° F (>250° C) Vapor Density (AIR=1): Not known

Explosive Limits: Not known — Flash Point & Method: >392° F (>200° C)

10. STABILITY AND REACTIVITY

Stable under normal operational conditions.

- Possible Hazardous Reactions/Conditions: None identified
- Materials to avoid: Strong oxidizing agents.
- Hazardous decomposition products: Does not decompose up to 400° F (204° C).
- Hazardous polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

	Palmitic Acid
IRRITATION DATA:	
Eye, rabbit	No available data
Skin, rabbit	No available data
Skin, human	75 mg/3D-I MOD
ACUTE TOXICITY:	
Oral, rat LD50	>10 gm/kg

12. ECOLOGICAL INFORMATION

No available data.

13. DISPOSAL CONSIDERATIONS

Waste disposal method: Recycle where possible. Incinerate according to local regulations

Contaminated packaging: Observe local regulations.

Dispose of according to Federal, State, and/or Local requirements.

NAME: V-1695

14. TRANSPORT INFORMATION

U.S. DOT: Not regulated for transport

Not classified in RID/ADR - ADNR - IMDG - ICAO/IATA - DGR

15. ADDITIONAL REGULATORY INFORMATION

INVENTORY STATUS:

Hexadecanoic acid	TSCA, EINECS, DSL, AUSTRALIA, KOREA, ENCS, PHILIPPINES, CHINA
VCI water endangering class	0 - generally not water endangering

16. OTHER INFORMATION

Literature references:

RTECS ACCESSION NUMBER RT4550000

This product safety data sheet was prepared in compliance with 93/112/EC.

DISCLAIMER: This MSDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this material. It is not meant to be an all-inclusive document on worldwide hazard communication regulations. All P&G operations must comply with applicable local and national MSDS/Hazard Communication Regulations.

This information is offered in good faith. Each user of this material needs to evaluate the conditions of use and design the appropriate protective mechanisms to prevent employee exposures, property damage or release to the environment.

CESP1192

PROCTER & GAMBLE
CHEMICALS DIVISION
P.O. BOX 599, CINCINNATI, OHIO 45201

MATERIAL SAFETY DATA SHEET

PROCTER & GAMBLE OPERATOR (513) 983-1100 (24 Hour Emergency Service)

SECTION I IDENTITY

ISSUE DATE: 8/19/91

Trade Names		
CO-1295, CO-1295LC Fatty Alcohol		DX,GV
Chemical Identity		**CAS Number**
Dodecyl Alcohol		112-53-8

SECTION II PHYSICAL DATA

BOILING POINT @760 mmHg		Over 350 F	SPECIFIC GRAVITY (H_2O = 1) @35/25 C	0.83
VAPOR PRESSURE	@72 F	Less than 10mm	PERCENT VOLATILE BY VOLUME (%)	Not known
VAPOR DENSITY (AIR = 1)		Not known	EVAPORATION RATE (nBuOAc = 1)	Not known
SOLUBILITY IN WATER	@72 F	Negligible		
APPEARANCE AND ODOR	@72 F	Water white liquid; fresh, waxy odor		

SECTION III FLAMMABILITY AND EXPLOSIVITY DATA

FLASH POINT (METHOD)	235°F (PMCC)	EXPLOSIVE LIMITS (LOWER) (UPPER)	N/A

EXTINGUISHING MEDIA: Use CO_2 or dry chemical for small fires.

SPECIAL FIRE FIGHTING PROCEDURES: Use foam for large fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION IV HEALTH AND SAFETY DATA

THRESHOLD LIMIT VALUE: Not established

EFFECTS OF OVEREXPOSURE: Accidental exposure to the eyes may produce a slight but transient irritation. Mild, primary skin irritation may occur with prolonged or repeated contact.

EMERGENCY AND FIRST AID PROCEDURES:
If instilled in eyes, rinse thoroughly with water.
Avoid prolonged contact with skin.
Wash skin with soap and water upon contact.

Data supplied is for use only in connection with occupational safety and health.

EPAHO107000153

CO1295

SECTION V REACTIVITY DATA

STABILITY			CONDITIONS TO AVOID
	UNSTABLE		
	STABLE	X	

INCOMPATIBILITY (Materials to avoid) Avoid strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Does not decompose up to 300 F.

HAZARDOUS POLYMERIZATION			CONDITIONS TO AVOID
	MAY OCCUR		
	WILL NOT OCCUR	X	

SECTION VI SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Neutralization not required. Soak up with absorbent material such as paper, rags, or sawdust. Dispose as any grease or oily material.

WASTE DISPOSAL METHOD

Dispose of according to Federal, State, and/or Local requirements.

SECTION VII PROTECTION INFORMATION

RESPIRATORY PROTECTION None required for normal usage

VENTILATION		
	LOCAL EXHAUST	SPECIAL
	MECHANICAL (General) Acceptable	OTHER

EYE PROTECTION Safety glasses

PROTECTIVE GLOVES Rubber or plastic

OTHER PROTECTIVE EQUIPMENT Have eye bath and safety shower nearby.

SECTION VIII PRECAUTIONS

HANDLING AND STORAGE Can be stored in most common storage vessels including stainless steel, zinc-type spray-on linings, epoxy linings, flaked glass-polester lining.

LABELLING

None

OTHER Heated product may cause thermal burns if contacted.

The submission of this MSDS may be required by law but this is not an assertion that this substance is hazardous when used in accordance with proper safety practices and normal handling procedures.

TO MAT from TSI

Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	**GR ACS Sodium Bromide Meets ACS Specification**	**Product Code**	SX0390
Manufacturer	EM Science A Division of EM Industries P.O. Box 70 480 Democrat Road Gibbstown, N.J. 08027	**Effective Date**	8/3/2001

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 Analytical reagent.

Chemical Family Inorganic salt.

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
SODIUM BROMIDE	7647-15-6	100

Section 3. Hazards Identification

Physical State and Appearance Solid. (Crystals solid. Granular solid.)

Emergency Overview

WARNING !
HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.
MAY CAUSE EYE AND SKIN IRRITATION.
CONTAINS MATERIAL WHICH MAY CAUSE DAMAGE TO THE FOLLOWING ORGANS:
BRAIN, SKIN, EYES, CENTRAL NERVOUS SYSTEM.

Routes of Entry Absorbed through skin. Eye contact. Inhalation. Ingestion.

Potential Acute Health Effects

Eyes May be hazardous in case of eye contact (irritant).

Skin May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Inhalation May be hazardous in case of inhalation.

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 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.
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.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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.

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)	Not applicable.
Special Remarks on Fire Hazards	Thermal decomposition may release toxic and/or hazardous gases.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	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. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.
Spill Kit Information	No specific spill kit required for this product. Absorb spill material with inert material (e.g., dry sand or earth), then place in a chemical waste container.

EPAHO107000156

Section 7. Handling and Storage

Handling	Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing dust. 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.

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	
Eyes	Splash goggles.
Body	Lab coat.
Respiratory	Dust respirator. Be sure to use an approved/certified respirator or equivalent.
Hands	Gloves.
Feet	Not applicable.
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.

Product Name	**Exposure Limits**
SODIUM BROMIDE	Not available.

Section 9. Physical and Chemical Properties

Odor	Not available.
Color	White.
Physical State and Appearance	Solid. (Crystals solid. Granular solid.)
Molecular Weight	102.9 g/mole
Molecular Formula	Br-Na
pH	Not available.
Boiling/Condensation Point	1390°C (2534°F)
Melting/Freezing Point	755.06°C (1391.1°F)
Specific Gravity	3.21 (Water = 1)
Vapor Pressure	Not available.

2610 Houston ISD
2610

EPAHO107000158

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/31/2008**

Dear

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2610

Expiration Date 2/4/2010

Generator: Houston ISD
Address: 1101 Taft
Houston, TX 77019

Waste Information

Name of Waste: Ethylene glycol
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Coolant for water chiller - chiller ltaken out of service
Color: various - yellowish / gr **Odor:** glycol like **pH:** 8-10
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
Level D

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP- see notes - No PFI

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com

TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	Houston ISD		
Address:	Location: 1101 Taft	Mailing	
City, State, Zip:	Houston, TX 77019	Houston, TX	
Contact:	SCOTT LAZAR	**Title:**	HISD ENV.
Phone No:	713-676-9256	**Fax No:**	
24/hr Phone:	CES-713-676-1460		
U.S. EPA I.D. No:	NA		
State I.D.	NA	**SIC Code:**	NA

SECTION 2: Billing Information – ☐ Same as Above

Company:	AAA Demolishing		
Address:	220 S. Lockwood		
City, State, Zip:	Houston, TX 77011		
Contact:	Ricky Crider	**Title:**	Project Manager
Phone No:	713-926-3018	**Fax No:**	713-926-3228

SECTION 3: General Description of the Waste

Name of Waste: Ethylene Glycol
Detailed Description of Process Generating Waste: Coolant for Water Chiller-Chiller taken out of service

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: various-yellowish/green/blue **Odor:** glycol like

Specific Gravity (water=1): 1.02-1.06 **Density:** 8.5 lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type:	☐ Drum	☐ Tote	☒ Truck	☐ Other (explain)
Container Size:	____	____	500 g	____

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly
Number of Units (containers): 1 **Other:** ____
Texas State Waste Code No: NA-Recyclable Material
Proper U.S. DOT Shipping Name: Non-RCRA; Non-DOT Regulated Material
Class: NA **UN/NA:** NA **PG:** NA **RQ:** NA

Flash Point ~~>150~~ 200	**pH** 8-10	**Reactive Sulfides** 0mg/l	**Reactive Cyanides** 0mg/l	**Solids** <2%
Oil&Grease ~~>1500mg/l~~	**TOC** >1500mg/l	**Zinc** 0mg/l	**Copper** 0mg/l	**Nickel** 0mg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Ethylene Glycol	60-80	%
Water	20-40	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
none

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature _____ **Date:** 1-28-08

Printed Name/Title: Sean Porter Project MGR.

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 2-4-08 (Approved) Rejected

Approval Number: 2610

Additional Information: 20¢/Gallon
Min 200[00] Trans 70[00]/Hr
+FSC w/o 100[00]
Transfer to Topaz → Sabre Tracking
Glycol

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

ITT 2611
2611

EPAHO107000164

FE
8-4-09
LAB
T-34

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/31/2008**

Dear **Fred**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2611

Expiration Date 2/5/2010

Generator: ITT
Address: 2200 Market Street
Baytown, TX 77520

Waste Information

Name of Waste: Transformer oil with PCB <50 ppm
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Reconditioning of old transformers
Color: dark **Odor:** oil like **pH:** 4-8
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
Level D PPE

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

GRP
OK ✓
processing notes

CES Environmental Services, Inc.

Attn: Dan Bowman DB
13 pages

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company: ITT
Address: 2200 Market St.
City, State, Zip: Boytown TX 77520
Contact: Fred Title: HSE
Phone No: 281-420-9774 Fax No: 281-420-9775
24/hr Phone: 281-541-4829
U.S. EPA I.D. No: TXCESQG
State I.D. CESQG SIC Code:

SECTION 2: Billing Information – ☐ Same as Above

Company: CKG Services LLC
Address: 10707 Honea Egypt Rd
City, State, Zip: Montgomery TX 77316
Contact: Zan McKaugh Title: President
Phone No: 936-483-3662 Fax No: 936-756-1226

SECTION 3: General Description of the Waste

Name of Waste: Tranformer oil w/PCBs <50 PPM
Detailed Description of Process Generating Waste: Reconditioning ok old Transformers

Physical State: ☑ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Dark Odor: oil like

Specific Gravity (water=1): <1 Density: 7-8 lbs/gal

Layers: ☑ Single-phase ☐ Multi-phase

Container Type: ☑ Drum ☐ Tote ☐ Truck ☐ Other (explain)
Container Size: 55 Gal

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☑ Yearly
Number of Units (containers): 30 Other: 55 gal Dm
Texas State Waste Code No: Recycling
Proper U.S. DOT Shipping Name: Non-RCRA, Non-Reg. Material
Class: NA UN/NA: NA PG: NA RQ: NA

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>200	4-8	NA mg/l	NA mg/l	0 %

Oil&Grease	TOC	Zinc	Copper	Nickel
~~NA~~ mg/l 100%	NA mg/l	NA mg/l	NA mg/l	NA mg/l

EPAHO107000167

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Transformer Oil w/PCBs <50 PPM	100	%
		%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.

Level D PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.

Lab work From Environ Express

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):

Oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals:
TCLP Volatiles:
TCLP Semi-Volatiles:
Reactivity:
Corrosivity:
Ignitability:

SECTION 9: Generator's Certification

The information contained herein is based on ☑ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 1-11-08

Printed Name/Title: Zac McLaughlin - _____

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Shepard

Date: 2-5-08 Approved Rejected

Approval Number: 2611

Additional Information: _____

EPAHO107000168

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☒ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000169

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☒ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000170

CES Environmental Services, Inc.

PROCESS FACILITY INFORMATION (CES USE ONLY!!)

1. **Base Pricing (including freight):**

$70/dm plus $10/dm to redirect to Geocycle

2. **Contamination Limits (maximum limit before surcharges apply):**

None

3. **Surcharge Pricing:**

NA

4. **Special Testing Requirements:**

~~Na~~ Bring a sample to the lab to test for density, water solubility and Btu.

5. **Treatment and Handling Protocol:**

Put drums aside until a load is collected for Geocycle-Cement Kiln (Contact Bo for this processing) Goes out as Non Haz for Recycled Fuels ; if there is not a load for Geocycle, pump these oil drums into a black Oil trailer for shipping.

6. **Treated Wastewater Discharge Subcategory:**

☐ Subcategory A ☒ Subcategory B ☐ Subcategory C

EPAHO107000171

7. **Tests for Product Recovered/Recycled (if applicable):**

Na

8. **Management for Product Recovered/Recycled (if applicable);**

Na

EPAHO107000172

CHAIN OF CUSTODY

Page 1 of 1

ENVIRON EXPRESS LABORATORIES, INC.
401 North 11th. St. / La Porte, Texas 77571-3115
(281) 471-0951 / (800) 880-0156
Fax: (281) 471-5821 / After Hours: (281) 844-2308
e-mail: environexp@aol.com

Results To: FRED HALSNE	Invoice To:	TAT (WORKING DAYS) CIRCLE ONE: 1 2 3 (5)	
Company: ITT	Company:	LAB LOT #	COC Present? (Yes) No
Address: 2200 MARKET ST	Address:	Shipment Sealed? (Yes) No	Samples Sealed? (Yes) No
City: BAYTOWN State: TX Zip: 77520	City: State: Zip:	Received on Ice? (Yes) No	Samples Intact? (Yes) No
Phone: 281-420-9774	Phone:	Cooler Temp. (°C): 2	Preservative Shown? Yes No (NA)
Fax: 281-420-9775	Fax:	Hold Time OK? (Yes) No	Res. Cl2 Check OK? Yes No (NA)
e-Mail:	PO#: Quote#:	pH Check OK? Yes No NA	COC & Labels Agree? (Yes) No

Project Name:
Project Location:
Project No:
Sampler (Print):
Sampler (Sign):
Sampler Remarks:

[2] Cntr. Type: G
Number: 9
Volume: 4oz
[3] Preservative: 1

EEL USE ONLY (LAB NO.)	SAMPLE ID.	DATE/TIME SAMPLED	[1] MATRIX	(C)OMP / (G)RAB	BTEX (8021B)	TPH (TX1005.3)	RCI	PAH	TOTAL EPA TCLP: VOLATILES	SEMI-VOLS	RCRA 8 METALS	PCB	Remarks & Additional Analyses
625606.04	1) T4	11-7-07										X	
.05	2) T5	"											
.06	3) T6	"											
626117.01	4) DRUM 34	11-27-07											
.02	5) " 35	"											
.03	6) " 36	"											
.04	7) " 39	"											
.05	8) " 40	"											
	9)												
	10)												

Relinquished By: Fred Halsne	Company: ITT	Date/Time: 11/29/07 10:00	Received By: John Keller	Company: ENVIRON	
Relinquished By:	Company:	Date/Time:	Received By:	Company:	
Relinquished By:	Company:	Date/Time:	Received By:	Company:	

[1] Matrix Key
S:Soil W:Water WW:Waste Water SL:Sludge SO:Solid SE:Sediment L: Leachate WI:Wipe OR:Organic OL:Oil DS:Drum Solid DL:Drum Liquid O:Other _____

[2] Container Type Key
P:Plastic G:Glass V:VOA Glass O:Other _____

[3] Preservative Key
1:Ice(<4°C) 2:HCL 3:H2SO4 4:HNO3 5:NaOH 6:NaOH+Zn Acetate 7:Na2S2O3 8:None

Delivery of samples constitutes acceptance of Environ's terms and conditions in the Price Schedule.

EPAHO107000173

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5821

Express Laboratories

CERTIFICATE OF ANALYSIS NO: 62506.05

Customer: ITT | Sample ID: T6 | Environ ID: 62506.05
Project ID: | | Sampled: 11-07-07
Project Loc: Baytown, TX | Matrix: Oil | Received: 11-07-07
Charge/P.O.: | Type: | Reported: 11-27-07

ANALYTE/ PARAMETER	RESULT	UNITS	REG. LIMIT	MQL	TEST METHOD	TEST BY	DATE	TIME
BTEX								
Benzene	< 0.05	mg/kg	--	0.05	SW846.8021B	DMB	11-09-07	12:48
Toluene	0.11	mg/kg	--	0.05	SW846.8021B	DMB	11-09-07	12:48
Ethylbenzene	< 0.05	mg/kg	--	0.05	SW846.8021B	DMB	11-09-07	12:48
Xylenes	0.64	mg/kg	--	0.15	SW846.8021B	DMB	11-09-07	12:48
Total BTEX	0.75	mg/kg			SW846.8021B	DMB	11-09-07	12:48
Water								
% Water (By Distillation)	< 0.1	wt %	--	0.1	ASTM D95	JK	11-19-07	08:30
FLASH								
Ignitability	> 160	°F	> 140	--	EPA SW846.1010	LC	11-20-07	14:00
METALS - Total								
Arsenic	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	11-07-07	14:15
Barium	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	11-07-07	14:15
Cadmium	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	11-07-07	14:15
Chromium	< 0.6	mg/kg	--	0.6	SW846.6010B	JA	11-07-07	14:15
Lead	< 0.6	mg/kg	--	0.6	SW846.6010B	JA	11-07-07	14:15
Selenium	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	11-07-07	14:15
Silver	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	11-07-07	14:15
Mercury	< 0.025	mg/kg	--	0.025	SW846.7471A	MN	11-07-07	11:00
TOX								
Total Organic Halides	< 250	mg/kg	--	250	SW846.9020A	JK	11-20-07	12:37
POLYCHLORINATED BIPHENYLS - PCBs								
PCBs	0.9	mg/kg	--	0.5	EPA SW846.8082	DMB	11-09-07	17:14

QUALITY CONTROL – PCB SURROGATE RECOVERIES

SURROGATE	RESULTS (mg/kg)		% RECOVERY	RANGE %
TCMX	0.45		90	70-130
DCB	0.41		82	70-130

Definitions:
MQL - Method Quantitation Limit
PPM - Parts Per Million
mg/l - PPM by Volume, mg/kg - PPM by Weight

John Keller

John Keller, Ph.D
Laboratory Director

EPAHO107000174

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5821

CERTIFICATE OF ANALYSIS NO: 62617.01

Customer: **ITT** Sample ID: **DRUM 34** Environ ID: **62617.01**
Project ID: **Oil Disposal** Sampled: **11-27-07**
Project Loc: **Baytown, TX** Matrix: **Oil** Received: **11-28-07**
Charge/P.O.: Type: Reported: **12-07-07**

ANALYTE/ PARAMETER	RESULT	UNITS	REG. LIMIT	MQL	TEST METHOD	TEST BY	DATE	TIME
POLYCHLORINATED BIPHENYLS - PCBs								
PCBs	15.3	mg/kg	--	0.6	EPA SW846.8082	DMB	11-30-07	19:26
QUALITY CONTROL – PCB SURROGATE RECOVERIES								
SURROGATE	**RESULTS (mg/kg)**				**% RECOVERY**		**RANGE %**	
TCMX	0.48				96		70-130	
DCB	0.41				82		70-130	

Definitions: MQL - Method Quantitation Limit
PPM - Parts Per Million
mg/l - PPM by Volume, mg/kg - PPM by Weight

John Keller

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Laboratory Director

EPAHO107000175

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5821

CERTIFICATE OF ANALYSIS NO: 62617.02

Customer: ITT
Project ID: Oil Disposal
Project Loc: Baytown, TX
Charge/P.O.:

Sample ID: DRUM 35
Matrix: Oil
Type:

Environ ID: 62617.02
Sampled: 11-27-07
Received: 11-28-07
Reported: 12-07-07

ANALYTE/ PARAMETER	RESULT	UNITS	REG. LIMIT	MQL	TEST METHOD	TEST BY	DATE	TIME
POLYCHLORINATED BIPHENYLS - PCBs								
PCBs	16.3	mg/kg	--	0.5	EPA SW846.8082	DMB	11-30-07	15:22
QUALITY CONTROL -- PCB SURROGATE RECOVERIES								
SURROGATE	RESULTS (mg/kg)				% RECOVERY		RANGE %	
TCMX	0.57				114		70-130	
DCB	0.50				100		70-130	

Definitions: MQL - Method Quantitation Limit
PPM - Parts Per Million
mg/l - PPM by Volume, mg/kg - PPM by Weight

John Keller

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Laboratory Director

EPAHO107000176

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.9821

CERTIFICATE OF ANALYSIS NO: 62617.03

Customer: **ITT** Sample ID: **DRUM 36** Environ ID: **62617.03**
Project ID: **Oil Disposal** Sampled: **11-27-07**
Project Loc: **Baytown, TX** Matrix: **Oil** Received: **11-28-07**
Charge/P.O.: Type: Reported: **12-07-07**

ANALYTE/ PARAMETER	RESULT	UNITS	REG. LIMIT	MQL	TEST METHOD	TEST BY	DATE	TIME
POLYCHLORINATED BIPHENYLS - PCBs								
PCBs	15.1	mg/kg	--	0.5	EPA SW846.8082	DMB	11-30-07	16:59
QUALITY CONTROL – PCB SURROGATE RECOVERIES								
SURROGATE	RESULTS (mg/kg)				% RECOVERY		RANGE %	
TCMX	0.48				96		70-130	
DCB	0.42				84		70-130	

Definitions: MQL - Method Quantitation Limit
PPM - Parts Per Million
mg/l - PPM by Volume, mg/kg - PPM by Weight

John Keller

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Laboratory Director

EPAHO107000177

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5821

Express Laboratories

CERTIFICATE OF ANALYSIS NO: 62617.05

Customer: ITT
Project ID: **Oil Disposal**
Project Loc: **Baytown, TX**
Charge/P.O.:

Sample ID: **DRUM 40**
Matrix: **Oil**
Type:

Environ ID: **62617.05**
Sampled: **11-27-07**
Received: **11-28-07**
Reported: **12-07-07**

ANALYTE/ PARAMETER	RESULT	UNITS	REG. LIMIT	MQL	TEST METHOD	TEST BY	DATE	TIME
POLYCHLORINATED BIPHENYLS - PCBs								
PCBs	14.9	mg/kg	--	0.5	EPA SW846.8082	DMB	11-30-07	16:37
QUALITY CONTROL – PCB SURROGATE RECOVERIES								
SURROGATE	RESULTS (mg/kg)				% RECOVERY		RANGE %	
TCMX	0.47				94		70-130	
DCB	0.54				108		70-130	

Definitions: MQL - Method Quantitation Limit
PPM - Parts Per Million
mg/l - PPM by Volume, mg/kg - PPM by Weight

John Keller

John Keller, Ph.D
Laboratory Director

EPAHO107000178

CHAIN OF CUSTODY

Page 1 of 1

ENVIRON EXPRESS LABORATORIES, INC.
401 North 11th. St. / La Porte, Texas 77571-3115
(281) 471-0951 / (800) 880-0156
Fax: (281) 471-5821 / After Hours: (281) 844-2308
e-mail: environexp@aol.com

Results To: Fred Halsne	Invoice To:
Company: ITT	Company:
Address: 2200 Market St.	Address:
City: Baytown State: TX Zip: 77520	City: State: Zip:
Phone: 281-420-9774	Phone:
Fax: 281-420-9775	Fax:
e-Mail:	PO#: Quote#:

TAT (WORKING DAYS) CIRCLE ONE: 1 2 3 5

LAB LOT #	COC Present? Yes No
Shipment Sealed? Yes No	Samples Sealed? Yes No
Received on Ice? Yes No	Samples Intact? Yes No
Cooler Temp. (°C) 2°	Preservative Shown? Yes No NA
Hold Time OK? Yes No	Res. Cl2 Check OK? Yes No NA
pH Check OK? Yes No NA	CoC & Labels Agree? Yes No

Remarks & Additional Analyses

Project Name:
Project Location:
Project No:
Sampler (Print):
Sampler (Sign):
Sampler Remarks:

[2] Cntr. Type: G
Number: 9
Volume: 40z
[3] Preservative: 1

LEL USE ONLY (LAB NO.)	SAMPLE ID.	DATE/TIME SAMPLED	[1] MATRIX	(C)OMP / (G)RAB	BTEX (8021B)	TPH (TX1005.3)	RCI	PAH	TOTAL EPA TCLP: VOLATILES	SEMI-VOLS	RCRA 8 METALS	% Water	Flash	Tox	PCBs	Remarks & Additional Analyses
62459.01	[1] A Drums 1-8	10-19-07 / —	OL		X						X	X	X	X	X	
.02	[2] B 9-16															
.03	[3] C 17-24															
.04	[4] D 25-32															
.05	[5] E 34-41															
.06	[6] F 42-49															
.07	[7] G 50-57															
.08	[8] H 58-65 + 77-76															
.09	[9] I 66-75		L		V						V	V	V	V	V	
	[10]															

Relinquished By: Fred Halsne	Company: ITT	Date/Time: 10-19-07 14:25	Received By: Ronda Hargrave	Company: Environ Express
Relinquished By:	Company:	Date/Time:	Received By:	Company:
Relinquished By:	Company:	Date/Time:	Received By:	Company:

[1] Matrix Key
S:Soil W:Water WW:Waste Water SL:Sludge SO:Solid SE:Sediment L:Leachate WI:Wipe OR:Organic OL:Oil DS:Drum Solid DL:Drum Liquid O:Other _____

[2] Container Type Key
P:Plastic G:Glass V:VOA Glass O:Other _____

[3] Preservative Key
1:Ice(<4°C) 2:HCL 3:H2SO4 4:HNO3 5:NaOH 6:NaOH+Zn Acetate 7:Na2S2O3 8:None

Delivery of samples constitutes acceptance of Environ's terms and conditions in the Price Schedule.

10-30-07; 4:01PM; Environ ;2814715821 # 11/ 11

EPAHO107000179

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5821

Environ Laboratories

CERTIFICATE OF ANALYSIS NO: 62459.04

Customer: ITT | Sample ID: D Drums 25-32 | Environ ID: 62459.04
Project ID: Oil Disposal | Sampled: 10-19-07
Project Loc: Baytown, TX | Matrix: Oil | Received: 10-19-07
Charge/P.O.: | Type: Composite | Reported: 10-30-07

ANALYTE/ PARAMETER	RESULT	UNITS	REG. LIMIT	MQL	TEST METHOD	TEST BY	DATE	TIME
BTEX								
Benzene	< 0.3	mg/kg	--	0.3	SW846.8021B	DMB	10-24-07	14:10
Toluene	27.3	mg/kg	--	0.3	SW846.8021B	DMB	10-24-07	14:10
Ethylbenzene	18.0	mg/kg	--	0.3	SW846.8021B	DMB	10-24-07	14:10
Xylenes	66.7	mg/kg	--	0.8	SW846.8021B	DMB	10-24-07	14:10
Total BTEX	111.9	mg/kg			SW846.8021B	DMB	10-24-07	14:10
Water								
% Water (By Distillation)	< 0.1	wt %	--	0.1	ASTM D95	JK	10-25-07	10:30
FLASH								
Ignitability	> 160	°F	--	--	SW846.1010	LC	10-25-07	15:15
METALS - Total								
Arsenic	0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Barium	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Cadmium	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Chromium	< 0.6	mg/kg	--	0.6	SW846.6010B	JA	10-25-07	16:00
Lead	< 0.6	mg/kg	--	0.6	SW846.6010B	JA	10-25-07	16:00
Selenium	0.9	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Silver	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Mercury	0.033	mg/kg	--	0.025	SW846.7471A	MN	10-29-07	11:30
TOX								
Total Organic Halides	< 250	mg/kg	--	250	SW846.9020A	JK	10-29-07	13:00
POLYCHLORINATED BIPHENYLS - PCBs								
PCBs (1260)	2.6	mg/kg	--	0.5	EPA SW846.8082	DMB	10-24-07	00:46

QUALITY CONTROL – PCB SURROGATE RECOVERIES			
SURROGATE	RESULTS (mg/kg)	% RECOVERY	RANGE %
TCMX	0.43	79	70-130
DCB	0.40	77	70-130

Definitions:
MQL - Method Quantitation Limit
PPM - Parts Per Million
mg/l - PPM by Volume, mg/kg - PPM by Weight
TKN - Total Kjeldahl Nitrogen
* API Gravity calculated from Density.

John Keller

John Keller, Ph.D
Laboratory Director

EPAHO107000180

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5621

CERTIFICATE OF ANALYSIS NO: 62459.07

Customer: **ITT** Sample ID: **G Drums 50-57** Environ ID: **62459.07**
Project ID: **Oil Disposal** Sampled: **10-19-07**
Project Loc: **Baytown, TX** Matrix: **Oil** Received: **10-19-07**
Charge/P.O.: Type: **Composite** Reported: **10-30-07**

ANALYTE/ PARAMETER	RESULT	UNITS	REG. LIMIT	MQL	TEST METHOD	TEST BY	DATE	TIME
BTEX								
Benzene	0.19	mg/kg	--	0.05	SW846.8021B	DMB	10-23-07	21:18
Toluene	2.61	mg/kg	--	0.05	SW846.8021B	DMB	10-23-07	21:18
Ethylbenzene	0.87	mg/kg	--	0.05	SW846.8021B	DMB	10-23-07	21:18
Xylenes	2.90	mg/kg	--	0.15	SW846.8021B	DMB	10-23-07	21:18
Total BTEX	6.57	mg/kg			SW846.8021B	DMB	10-23-07	21:18
Water								
% Water (By Distillation)	0.8	wt %	--	0.1	ASTM D95	JK	10-26-07	9:00
FLASH								
Ignitability	> 160	°F	--	--	SW846.1010	LC	10-25-07	15:15
METALS - Total								
Arsenic	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Barium	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Cadmium	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Chromium	< 0.6	mg/kg	--	0.6	SW846.6010B	JA	10-25-07	16:00
Lead	< 0.6	mg/kg	--	0.6	SW846.6010B	JA	10-25-07	16:00
Selenium	0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Silver	< 0.2	mg/kg	--	0.2	SW846.6010B	JA	10-25-07	16:00
Mercury	0.034	mg/kg	--	0.025	SW846.7471A	MN	10-23-07	11:30
TOX								
Total Organic Halides	< 250	mg/kg	--	250	SW846.9020A	JK	10-29-07	13:00
POLYCHLORINATED BIPHENYLS - PCBs								
PCBs (1260)	3.5	mg/kg	--	0.5	EPA SW846.8082	DMB	10-24-07	03:12

QUALITY CONTROL – PCB SURROGATE RECOVERIES			
SURROGATE	RESULTS (mg/kg)	% RECOVERY	RANGE %
TCMX	0.39	78	70-130
DCB	0.38	77	70-130

Definitions:
MQL - Method Quantitation Limit
PPM - Parts Per Million
mg/l - PPM by Volume, mg/kg - PPM by Weight
TKN - Total Kjeldahl Nitrogen
* API Gravity calculated from Density.

John Keller

John Keller, Ph.D
Laboratory Director

EPAHO107000181

25B生 D Wetland Construction
2594

EPAHO107000182

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/17/2008**

Dear **Darryl Poe**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2594

Expiration Date 1/17/2010

Generator: B&D Waterland Construction
Address: 16000 Gulf Club Drive
Crosby, TX 77532

Waste Information

Name of Waste: TPH contaminated soil
TCEQ Waste Code #: FJRS3191
Container Type: 25 yd box
Detailed Description of Process Generating Waste:
Contaminated soil from a diesel spill on a construction site
Color: dark **Odor:** slight hydrocarbon **pH:** 3-11
Physical State:
Incompatibilities: none known
Safety Related Data/Special Handling:
std PPE

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	B&D Waterland Construction		
Address:	16000 Gulf Club Drive		
City, State, Zip:	Crosby, TX 77532		
Contact:	Frank ~~Lane~~ LAYNE FOR JACK HANES	Title:	HSE COORDINATOR
Phone No:	713-806-1662	Fax No:	713 671 5487
24/hr Phone:			
U.S. EPA I.D. No:	TXCESQG		
State I.D.	~~CES00~~ XXX12	SIC Code:	NA

SECTION 2: Billing Information – ☐ Same as Above

Company:	South Coast Terminals Wallisville		
Address:	7401 Wallisville Road		
City, State, Zip:	Houston, TX 77020		
Contact:	Frank Lane	Title:	
Phone No:	713-806-1662	Fax No:	

SECTION 3: General Description of the Waste

Name of Waste: TPH Contaminated Soil
Detailed Description of Process Generating Waste: Contaminated soil from a diesel spill on a construction site.

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☒ Solid ☐ Filter Cake ☐ Combination

Color: Dark Odor: Slight Hydrocarbon

Specific Gravity (water=1): NA Density: NA lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☒ Other (explain)
Container Size: ____ ____ ____ 25 yard box

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☐ Yearly
Number of Units (containers): 1 Other: One-time
Texas State Waste Code No: FJRS3191
Proper U.S. DOT Shipping Name: Non-RCRA/Non DOT Regulated TPH Contaminated Soil
Class: NA UN/NA: NA PG: NA RQ: NA

Flash Point ~~>140~~ 200	pH 3-11	Reactive Sulfides <50mg/l	Reactive Cyanides <50mg/l	Solids 100%
Oil&Grease >1500mg/l	TOC NAmg/l	Zinc NAmg/l	Copper NAmg/l	Nickel NAmg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Soil (dirt, rocks, clay, sand)	98-99	%
Diesel	1-2	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
Analysis

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
None Known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: ____
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: ____
Corrosivity: ____
Ignitability: ____

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☒ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: [signature] (FRANK LAYNE FOR JACK HAYES) **Date:** 1-15-08

Printed Name/Title: FRANK LAYNE HSE COORDINATOR

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	
Compliance Officer: [signature] Date: 1-17-08 (Approved) Rejected Approval Number: 2594	**Process Facility Information:** Redirect to landfill as class 1 Charge: $50/yard ; $70.00/hr trans. 15

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000186

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000187

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

TNRCC

ONE-TIME SHIPMENT REQUEST FOR TEXAS WASTE CODE FOR SHIPMENT OF CLASS 1, 2, 3 AND EPA HAZARDOUS WASTE

Pursuant to the generator notification requirements of 30 TAC Section 335.6, the generator of a solid waste is required to submit to the TNRCC detailed written information pertaining to the composition and characteristics of the waste. Please complete all applicable sections. Incomplete forms will delay processing. Assigned waste codes cannot be changed without prior approval from the TNRCC.

Please type or print legibly.

Frank Lane
B & D Waterland Construction
25930 FM 2100
Huffman, TX 77336

GENERATOR CONTACT PERSON
GENERATOR COMPANY NAME
GENERATOR MAILING ADDRESS
CITY, STATE, ZIP CODE
PHONE NO. (713) 806 6662
FAX NO. ( )

COMPLETE ONLY IF NOT REGISTERED

Are you industrial? ☐ Yes ☒ No "Are you CESQG? ☒ Yes ☐ No

If industrial, have you submitted TNRCC Initial Notification form (TNRCC-0002)? ☐ Yes ☐ No

Date submitted: _____

COMPLETE ONLY IF REGISTERED

XXX12
Solid Waste Registration No.

U. S. EPA Identification No.

Generating Site Location (☐ Check if same as above) 6000 Gulf Club Dr, Crosby, TX 77532
(STREET ADDRESS OR PHYSICAL DESCRIPTION)

Designated Treatment, Storage, and/or Disposal Facility Name and Address CES Environmental Services, 4904 Griggs Rd, Houston, TX 77021

DESCRIPTION OF WASTE
(do not use DOT description or trade name)

1. TPH contaminated soil from diesel spill
2.
3.
4.

TNRCC USE ONLY

For TNRCC Assignment of Texas Waste Code Number: FJRS3191

① FORM CODE	② CLASS CODE	③ EPA CODE	④ ORIGIN CODE
319	1	n/a	2

PROCESSED DATE: 1-10-08
PROCESSED BY: Janet Hazlett
TNRCC REGION: Reg. 12 OFFICE

GENERATOR/REPRESENTATIVE

I certify that the above information is correct to the best of my knowledge.

I, Ryan Thomas (NAME, Please Print), am employed by:

(COMPANY NAME AND MAILING ADDRESS)
CES Environmental Services
4904 Griggs Rd
Houston, TX 77021

I am authorized to sign this certification for:

B&D Waterland Construction (COMPANY NAME)

(SIGNATURE)

1/10/08 (DATE)

(713) 676 1960 (PHONE NUMBER)

(713) 676 1676 (FAX NUMBER)

TNRCC-0757 (Rev. 05/02)

EPAHO107000188

ENVIRON EXPRESS LABORATORIES, INC.

401 N. 11th. St.
La Porte, TX 77571
281.471.0951 FAX:281.471.5821

CERTIFICATE OF ANALYSIS NO: 62769.01 1of 1

Customer: CES
Project ID: South Coast Wallisville
Project Loc: Crosby, TX
Charge/P.O.:

Sample ID: Contaminated Soil
Matrix: Soil
Type: Grab
RECEIVED BASIS

Environ ID: 62769.01
Sampled: 01-07-08
Received: 01-07-08
Reported: 01-10-08

ANALYTE / PARAMETER		RESULT	UNITS	REG. LIMIT	MQL	TEST METHOD	ANALYST	DATE	TIME
BTEX - TOTAL									
Benzene		0.05	mg/kg	--	0.05	EPA SW846.8021B	DMB	01-08-08	19:17
Toluene		1.60	mg/kg	--	0.05	EPA SW846.8021B	DMB	01-08-08	19:17
Ethylbenzene		0.95	mg/kg	--	0.05	EPA SW846.8021B	DMB	01-08-08	19:17
Xylenes		4.08	mg/kg	--	0.15	EPA SW846.8021B	DMB	01-08-08	19:17
Total BTEX		6.68	mg/kg	--		EPA SW846.8021B	DMB	01-08-08	19:17
TPH - TOTAL PETROLEUM HYDROCARBONS									
nC6 to nC12 (GRO)		406	mg/kg	--	50	TCEQ 1005.3	DB	01-08-08	23:00
> nC12 to nC28 (DRO)		2,761	mg/kg	--	50	TCEQ 1005.3	DB	01-08-08	23:00
> nC28 to nC35 (ORO)		51	mg/kg	--	50	TCEQ 1005.3	DB	01-08-08	23:00
TPH (Total > nC6 to nC35)		3,218	mg/kg	1,500	50	TCEQ 1005.3	DB	01-08-08	23:00
RCI									
Reactive Cyanide	<	50	mg/kg	250	50	EPA SW846.7.3.3	LC	01-10-08	11:15
Reactive Sulfide	<	50	mg/kg	500	50	EPA SW846.7.3.4	LC	01-10-08	11:30
Corrosivity (Ph)		7.15	su	=>2; =<12.5	--	EPA SW846.9045C	LC	01-10-08	11:10
Ignitability	>	160	°F	> 140	--	EPA SW846.1010M	LC	01-10-08	13:00
METALS (RCRA) - TCLP						SW846.1311	MN	01-08-08	
Arsenic	<	0.02	mg/l	5.00	0.02	SW846.6010B	JA	01-10-08	14:45
Barium		2.02	mg/l	100	0.02	SW846.6010B	JA	01-10-08	14:45
Cadmium	<	0.02	mg/l	1.00	0.02	SW846.6010B	JA	01-10-08	14:45
Chromium	<	0.02	mg/l	5.00	0.02	SW846.6010B	JA	01-10-08	14:45
Lead	<	0.02	mg/l	5.00	0.02	SW846.6010B	JA	01-10-08	14:45
Selenium		0.08	mg/l	1.00	0.05	SW846.6010B	JA	01-10-08	14:45
Silver	<	0.05	mg/l	5.00	0.05	SW846.6010B	JA	01-10-08	14:45
Mercury	<	0.002	mg/l	0.200	0.002	SW846.7470A	MN	01-09-08	09:20

Definitions:
TCLP - Toxicity Characteristic Leaching Procedure
REG - Regulatory Limit (User Should Confirm Limits)
MQL - Method Quantitation Limit
PPM - Parts Per Million
mg/l - PPM by Volume, mg/kg - PPM by Weight
su - Standard Units

John Keller

John Keller, Ph.D
Laboratory Director

EPAHO107000189

(THU) JAN 17 2008 10:06/ST. 10:04/No. 6814441166 P 8
FROM SOUTHCOAST
EPAHO107000190

CHAIN OF CUSTODY

Page 1 of 1

ENVIRON EXPRESS LABORATORIES, INC.
401 North 11th. St. / La Porte, Texas 77571-3115
(281) 471-0951 / (800) 880-0156
Fax: (281) 471-5821 / After Hours: (281) 844-2308
e-mail: environexp@aol.com

Results To: Ryan Thomas	Invoice To: Juanita Thomas
Company: CES Environmental	Company: CES Environmental
Address: 4904 Griggs Rd	Address: 4904 Griggs Rd
City: Houston State: TX Zip: 77021	City: Houston State: TX Zip: 77021
Phone: 713 676 1460	Phone: 713 676 1460
Fax: 713 676 1676	Fax: 713 676 1676
e-Mail:	PO#: Quote#:

Project Name: South Coast Wallisville
Project Location: Crosby, TX
Project No: 56127
Sampler (Print): Ryan Thomas
Sampler (Sign):

Sampler Remarks:

TAT (WORKING DAYS) CIRCLE ONE: 1 (2) 3 5

LAB LOT #

COC Present? (Yes) No
Shipment Sealed? (Yes) No
Samples Sealed? (Yes) No
Received on Ice? (Yes) No
Samples Intact? (Yes) No
Cooler Temp. (°C): 1.5
Preservative Shipped? Yes No (NA)
Hold Time OK? (Yes) No
Res. Cl2 Check OK? Yes No (NA)
pH Check OK? Yes No (NA)
COC & Labels Agree? (Yes) No

Remarks & Additional Analyses

LEL USE ONLY (LAB NO.)	SAMPLE ID.	DATE/TIME SAMPLED	[1] MATRIX	(C)OMP / (G)RAB	[2] Cnr. Type	Number	Volume	[3] Preservative	BTEX (8021B)	TPH (TX1005.3)	RCI	PAH	TOTAL EPA TCLP VOLATILES	TOTAL EPA TCLP SEMI-VOLS	TOTAL EPA TCLP RCRA 8 METALS
					P	1	32oz	1							
62769.01	1) Contaminated Soil	1-7-08 9:25AM	S	C					X	X	X				X
	2)														
	3)														
	4)														
	5)														
	6)														
	7)														
	8)														
	9)														
	10)														

Relinquished By:	Company: CES Environmental Services	Date/Time: 1-7-08 12:50	Received By: Ronda Hargrave Company: Environ
Relinquished By:	Company:	Date/Time:	Received By: Company:
Relinquished By:	Company:	Date/Time:	Received By: Company:

[1] Matrix Key
(S):Soil W:Water WW:Waste Water SL:Sludge SO:Solid SE:Sediment L:Leachate WI:Wipe OR:Organic OL:Oil DS:Drum Solid DL:Drum Liquid O:Other

[2] Container Type Key
(P):Plastic G:Glass V:VOA Glass O:Other

[3] Preservative Key
1:Ice(<4°C) 2:HCL 3:H2SO4 4:HNO3 5:NaOH 6:NaOH+Zn Acetate 7:Na2S2O3 8:None

Delivery of samples constitutes acceptance of Environ's terms and conditions in the Price Schedule

Hydrochem 2595
2595

EPAHO107000191

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/24/2008**

Dear **Ginger Curtis**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2595

Expiration Date 1/24/2010

Generator: Hydrochem @ D.S. Waters
Address: 27815 Highway Blvd.
Katy, TX 77494

Waste Information

Name of Waste: Activated carbon
TCEQ Waste Code #: CESQ4041
Container Type: vac box
Detailed Description of Process Generating Waste:
Activated carbon, sand, and gravel from filtering City of Katy Water
Color: black **Odor:** none **pH:** neutral
Physical State:
Incompatibilities: none known
Safety Related Data/Special Handling:
std ppe

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

DC

SECTION 1: Generator Information

Company:	Hydrochem @ D.S. Waters		
Address:	27815 Highway Blvd		
City, State, Zip:	Katy TX 77494		
Contact:	Curtis Baker	Title:	Account Manager
Phone No:	281-470-0411	Fax No:	281-470-0653
24/hr Phone:	281-779-3141		
U.S. EPA I.D. No:	TXCESQG		
State I.D.	CESQG	SIC Code:	NA

SECTION 2: Billing Information – ☐ Same as Above

Company:	Hydrochem Inc		
Address:	620 South 16th Street		
City, State, Zip:	La Porte, TX 77571		
Contact:	Curtis baker	Title:	Account Manager
Phone No:	281-470-0411	Fax No:	281-470-0653

SECTION 3: General Description of the Waste

Name of Waste: Activated Carbon
Detailed Description of Process Generating Waste: activated carbon, sand, and gravel from filtering City of Katy Water

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☒ Solid ☐ Filter Cake ☐ Combination

Color: Black Odor: none

Specific Gravity (water=1): ~~1.2~~ na Density: ~~8.45 lbs/gal~~ na

Layers: ☒ Single-phase ☒ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☒ Other (explain) vacuum box
Container Size: ____ ____ ____

Frequency: ☐ Weekly ☐ Monthly ☒ Quarterly ☐ Yearly
Number of Units (containers): 2 Other: ____
Texas State Waste Code No: CESQ4041
Proper U.S. DOT Shipping Name: Non RCRA Non DOT Regulated Material
Class: NA UN/NA: NA PG: NA RQ: NA

Flash Point ~~>150~~ 200	pH neutral	Reactive Sulfides 0mg/l	Reactive Cyanides 0mg/l	Solids 100%
Oil&Grease 0mg/l	TOC 0mg/l	Zinc 0mg/l	Copper 0mg/l	Nickel 0mg/l

1

EPAHO107000193

SECTION 4: Physical and Chemical Data

COMPONENTS LIST	Concentration	Units
The waste consists of the following materials	Ranges are acceptable	or %
Activated Carbon	50-75	%
Sand, Gravel	25-50	%
Debris (ppe, hose)	0-2	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
None

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
None known

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Russell A. Williams **Date:** 1-22-08

Printed Name/Title: Russell A. Williams Operations/Sales Manager.

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	**Process Facility Information:**
Compliance Officer: [signature]	#75/yd
Date: 1-24-08 (Approved) Rejected	Redirect as Class I solids
Approval Number: 2595	

EPAHO107000194

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000195

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000196

GATX (Hearne) 2596
Z596

EPAHO107000197

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/21/2008**

Dear **Ricardo Salias**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2596

Expiration Date 1/21/2010

Generator: GATX (Hearne)
Address: 1401 W. Brown St.
Hearne, TX 77859

Waste Information

Name of Waste: Ferric sulfate solution product
TCEQ Waste Code #: Product
Container Type:
Detailed Description of Process Generating Waste:
Removal of heel from rail cars prior to cleaning
Color: dark **Odor:** none **pH:** <1
Physical State:
Incompatibilities: Copper, copper alloys, mild steel and galvanized steel, strong oxidizing agents
Safety Related Data/Special Handling:
Standard

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

DC

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30148
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	GATX Rail (Hearne)		
Address:	1401 W. Brown Street PO Box 969		
City, State, Zip:	Hearne, TX 77859		
Contact:	Ricardo Salias	**Title:**	
Phone No:	979-279-3481	**Fax No:**	979-279-5664
24/hr Phone:			
U.S. EPA I.D. No:	TXD000835207		
State I.D.	32643	**SIC Code:**	NA

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Waste

Name of Waste: Ferric Sulfate Solution Product
Detailed Description of Process Generating Waste: Removal of heel from rail cars prior to cleaning

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: dark **Odor:** none

Specific Gravity (water=1): 1.38-1.59 **Density:** 10-11 lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type:	☒	Drum	☐ Tote	☐	Truck	☐	Other (explain)
Container Size:		55 gal					
Frequency:	☐	Weekly	☐ Monthly	☒	Quarterly	☐	Yearly

Number of Units (containers): 5 **Other:**
Texas State Waste Code No: Product
Proper U.S. DOT Shipping Name: Corrosive Liquid, acidic, inorganic, n.o.s.
Class: 8 **UN/NA:** UN3264 **PG:** II **EQ:** NA

Flash Point NA	**pH** <1	**Reactive Sulfides** 0mg/l	**Reactive Cyanides** 0mg/l	**Solids** 0%
Oil&Grease 0mg/l	**TOC** 0mg/l	**Zinc** 0mg/l	**Copper** 0mg/l	**Nickel** 0mg/l

EPAHO107000199

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Ferric Sulfate	36-48	%
Water	52-64	%

SECTION 5; Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Standard

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
MSDS

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
copper, copper alloys, mild steel and galvanized steel,, strong oxidizing agents

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the material tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 1/18/08

Printed Name/Title: Ricardo Salias

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Reyna

Date: 1-21-08 Approved Rejected

Approval Number: 2596

Process Facility Information:

$100/dm
use as coagulant

EPAHO107000200

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000201

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the Oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the Organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000202

GATX

GATX Rail
PO Box 969 Austin Highway # 79
Hearne, TX 77859

FAX

Ricardo Salias
Cleaning Supervisor

Tel: 979.279.7053
Fax: 979.279.5664
ricardo.salias@gatx.com

TO Dana Carter

COMPANY CES Environmental Services

TELEPHONE (713) 676-1460

FAX (713) 676-1676

FROM **Ricardo Salias**

DATE January 18, 2008 TIME 1:00 PM

PAGES 05

Find attached the Waste profile form signed.

Thanks.

–Ricardo-

EPAHO107000203

Material Safety Data Sheet

Issue date: July 2004
Hazardous according to criteria of Worksafe Australia
Ferric Sulphate

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Details:
Kendon Chemical & MNFG. Co. Pty Ltd
71 McClure Street Thornbury 3071
PO Box 160 Northcote 3070
Tel: 03 9497 2822
Fax: 03 9499 7225

Emergency: 000

Product Name: Ferric Sulphate
Synonyms: Liquid Ferric Sulphate
Iron (III Sulpahte
Iron Persulphate
Iron Sequisulphate
Diiron Trisulphate
Manufacturer's Product Code(s):
Use: Flocculation in municipal water supplies, sewage, industrial effluents Phosphate removal in sewrage treatment chemical manufacture Acid etching of aluminium and copper pickling of stainless steel mordant in textile dying and calico printing Polymerisation catalyst soil conditioning.
UN Number: 1760
Proper Shipping Name: CORROSIVE LIQUID, N.O.S.
Dangerous Goods Class: 8
Subsidiary risk: None allocated
Packing Group: III
Hazchem Code: 2X

2. COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE NAME	Molecular formula	CAS Number
Inorganic Iron Compound	Fe2 (SO4)3 xH2O	10028-22-5

3. HAZARD IDENTIFICATION

Hazardous according to the criteria of Worksafe Australia

Hazard Category: None

ACUTE HEALTH EFFECTS
Swallowed:
May cause abdominal pain, nausea, vomiting, bleeding stomach, incoordination, and muscle spasm and kidney injury.
Eye:
May cause moderate to severe irritation and inflammation to the eyes..
Skin:
Ferric Sulphate can cause stingy irritation to open cuts and wounds. Prolonged contact can cause dermatitis.
Inhaled:
Ferric Sulphate has a very low vapour pressure at ambient temperature and therefore normally can not be inhaled. Inhalation of air containing mist may cause sore throat, coughing and irritation of nose. High concentration of mist may cause congestion and restriction of air ways.
Chronic:
Inhalation: No known long term effect.

Skin: No known long term effect
Ingestion: Repeated ingestion of this material may cause phosphate deficiency which can weaken bones. Pink urine discoloration is a strong indicator of iron poisoning. Liver damage coma, nausea and death from iron poisoning has been reported.
Eye: No known long term effect.

4. FIRST AID MEASURES

Swallowed:
If swallowed, DO NOT induce vomiting. Drink plenty of water. never give anything by mouth if victim is rapidly loosing consciousness. Seek urgent medical assistance.

Eye:
If material is splashed into eyes, flush with plenty of water for at least 15 minutes, ensuring eye lids are held open. Immediately transport to hospital or doctor.

Skin:
If material is splashed onto the skin, remove any contaminated clothing and wash skin thoroughly with water and soap if available.

Inhaled:
Remove victim to fresh air. Apply resuscitation if victim is not breathing - DO NOT USE DIRECT MOUTH - TO - MOUTH METHOD if victim ingested or inhaled substance; use alternative respiratory method or proper respiratory device -

First Aid Facilities:
Eye wash fountain, safety shower and normal wash room facilities.

Advice to Doctor:
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Fire/Explosion Hazard
CAUTION: Use of water spray when fighting fire may be inefficient.
EXTINGUISHING MEDIA: Use dry chemical, carbon dioxide, foam or water fog.
SPECIAL FIRE FIGHTING PROCEDURES: Self-contained breathing apparatus (SCBA) required for fire-fighting personnel. If possible to do so safely, shut off fuel to fire. Use water spray to spray to cool fire-exposed surfaces and to protect personnel.
UNUSUAL FIRE AND EXPLOSION HAZARDS: If tanks, drums or containers of this material are heated, they may rupture and project corrosive liquids over a wide area.

Flammability
Not flammable or combustible. If involved in a fire may generate noxious and corrosive fumes.

6. ACCIDENTAL RELEASE MEASURES

EMERGENCY ACTION:
Keep unnecessary people away; Isolate hazard area and deny entry. Stay upwind; Keep out of low areas. Isolate for 800 m in all directions if tank, rail car or tanker truck is involved in fire.
SPILL OR LEAK PROCEDURE:
Shut off ignition sources, no flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Water spray may reduce vapour; but it may not prevent ignition in closed spaces.
SMALL SPILLS:
Small spillage may be washed down to drain. For large spillage refer to EPA or local waster management authority. Contain spillage with earth, sand or other absorbent material which does not react with the spilled material. Contact emergency services and supplier for advice.

7. HANDLING AND STORAGE

Store and transport in corrosion resistant containers such as stainless steel, rubber lined steel, PVC, fibergalss, polyethylene etc. Keep solution at manufacturer's recommended temperature to prevent crystallization. Avoid generating mist.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Standards
****

IRON SULFIDE
(Worksafe Australia)
[TWA] 10 mg/m³

Engineering Controls
Corrosive liquid. Single significant exposure may cause severe injury. Maintain adequate ventilation at all times. Prevent accumulation of gas(es) in hollows or sumps. Eliminate any sources of ignition.
Exposure to this material may be controlled in a number of ways.The measures appropriate for a particular worksite depend on how the material
is used and on the potential for exposure. Engineering methods to prevent or control exposure are preferred. Methods include process or personnel enclosure, mechanical ventilation (dilution and local exhaust), and control of process conditions. If engineering controls and work practices are not effective in preventing or controlling exposure, then suitable personal protective equipment, which is known to perform satisfactorily, should be used.

Personal Protection Equipment
CLOTHING: PVC, Nitrile, Neoprene, Natural rubber or any other type of apron or splash suit as recommended by the manufacturer.
GLOVES: PVC, Nitrile, Neoprene, Natural rubber or any other type of glove as recommended by the manufacturer.
EYES: Chemical goggles or faceshield to protect eyes.
RESPIRATORY PROTECTION: Avoid breathing of gases. Select and use respirators in accordance with AS/NZS 1715/1716. When the concentration of airborne contaminants reach the exposure standards then the use of a half-face respirator with acid vapour cartridge is recommended. For high concentration use a atmosphere-supplied, positive pressure demand self-contained or airline breathing apparatus supplied air respirator complying with the requirements of AS/NZS 1715 is recommended. Filter capacity and respirator type depends on exposure levels.
If entering spaces where the airborne concentration of a contaminant is unknown then the use of a Self-contained breathing apparatus (SCBA) with positive pressure air supply complying with AS/NZS 1715 / 1716, or any other acceptable International Standard is recommended. The use of fully-encapsulating, gas-tight suits is also recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brown in color
Boiling Point Melting Point:	112°C
pH	1
Specific Gravity:	1.58 at 20°C
Flash Point:	None Available
Flammability Limits:	Non Combustible
Solubility in Water:	Miscible with water in any proportion

Other Properties

Solubility in other liquids:	Insoluble in alcohol
Freezing Point	18°C
Corrosiveness	Aqueous solution is mildly corrosive to metals and concrete.

10. STABILITY AND REACTIVITY

STABILITY:
Stable compound, but in very dilute aqueous solutions hydrolyses to form some sulphuric acid.

HAZARDOUS DECOMPOSITION PRODUCTS:
Solid: Fumes of SO2 and SO3
Liquid: dilute sulphuric acid.

HAZARDOUS POLYMERIZATION:
Will not occur.

INCOMPATIBILITIES:
Strong aqueous solutions of Ferric Sulphate will readily react with sodium Hydroxide and other alkali to form a thick slippery paste or jell.

CONDITIONS TO AVOID:
Heat, flames, ignition sources and incompatibles.

11. DISPOSAL CONSIDERATIONS

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an 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.

12. TRANSPORT INFORMATION

UN Number: 1760
Proper Shipping Name: CORROSIVE LIQUID, N.O.S.
Dangerous Goods Class: 8
Subsidiary risk: None allocated
Packing Group: III
Hazchem Code: 2X

Classified as a CLASS 8 (CORROSIVE) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail, 6th Edition.

Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:
- Class 1
- Class 4.3
- Class 5
- Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids
- Class 7

and are incompatible with food and food packaging in any quantity.
Emergency information(Transport):
Dangerous Goods - Initial Emergency Response Guide (SAA/SNZ HB76:1997)
For TOXIC AND/OR CORROSIVE Guide No: 37

13. REGULATORY INFORMATION

Poison Schedule: S5

14. OTHER INFORMATION

Contact Point
Ian Logan
Technical Manager 03 9497 2822
Chris Story
General Manager 03 9497 2822

Disclaimer

EPAHO107000207

The information herein is to the best to our knowledge, correct and complete. It describes the safety requirements for this product and should not be construed as guaranteeing specific properties. Since methods and conditions are beyond our control we do not accept liability for any damages resulting from the use of, or reliance on, this information in inappropriate contexts.

LDB31/5/01

EPAHO107000208

Groth Corp 2597
2597

EPAHO107000209

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/21/2008**

Dear **Joe Lee**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2597

Expiration Date 1/21/2010

Generator: Groth Corp.
Address: 13650 N. Prominade
Stafford, TX 77477

Waste Information

Name of Waste: Used oil
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Used oil from equipment, drains, and leaks
Color: milky-black **Odor:** none **pH:** 4-11
Physical State:
Incompatibilities: oxidizers
Safety Related Data/Special Handling:
std PPE

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.

4904 Griggs Road **Houston, TX 77021**
Phone: (713) 676-1460 **Fax: (713) 676-1676**
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 39048
U.S. EPA ID No: TXD008950461 **ISWR No: 30900**

SECTION 1: Generator Information

Company:	Groth Corporation		
Address:	13650 N. Prominade		
City, State, Zip:	Stafford, TX 77477		
Contact:	Jeremy	**Title:**	HSE
Phone No:	281-295-6872	**Fax No:**	281-295-6999
24/hr Phone:	281-295-6872		
U.S. EPA I.D. No:	Na		
State I.D.	Na	**SIC Code:**	N/A

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Waste

Name of Waste: Used Oil
Detailed Description of Process Generating Waste: Used oil from equipment, drains and leaks

Physical State: ☒ **Liquid** ☐ **Sludge** ☐ **Powder** ☐ **Solid** ☐ **Filter Cake** ☐ **Combination**

Color: Milky - Black **Odor:** None

Specific Gravity (water=1): 0.95 **Density:** 7.5-8 lbs/gal

Layers: ☒ **Single-phase** ☐ **Multi-phase**

Container Type:	☒	**Drum**	☐ **Tote**	☐	**Truck**	☐	**Other (explain)**
Container Size:		55 Gal					

Frequency: ☐ **Weekly** ☒ **Monthly** ☐ **Quarterly** ☒ **Yearly**
Number of Units (containers): 1-25 **Other:**
Texas State Waste Code No: N/A - Recyclable
Proper U.S. DOT Shipping Name: Recyclable Used Oil
Class: N/A **UN/NA:** N/A **PG:** N/A **RQ:** N/A

EPAHO107000211

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>200	4-11	<20mg/l	<20mg/l	0%

Oil&Grease	TOC	Zinc	Copper	Nickel
> 100mg/l	N/Amg/l	N/Amg/l	N/Amg/l	N/Amg/l

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Used Oil	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Standard PPE

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
None

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
Strong Oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals:	N/A - Regulated under 40 CFR 279.11
TCLP Volatiles:	N/A - Regulated under 40 CFR 279.11
TCLP Semi-Volatiles:	N/A - Regulated under 40 CFR 279.11
Reactivity:	N/A - Regualted under 40 CFT 279.11
Corrosivity:	N/A - Regulated under 40 CFR 279.11
Ignitability:	N/A - Regulated under 40 CFR 279.11

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: N/A **Date:** 01/21/08

Printed Name/Title: No Signature Required

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: Robert Rogers

Date: 1-21-08 (Approved) Rejected

Approval Number: 2597

Additional Information: Chlor-D-Tect $35/drm + Trans + FSC

EPAHO107000212

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000213

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000214

Enterprise Operating 2598
2598

EPAHO107000215

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/22/2008**

Dear **Roy Hebert**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2598

Expiration Date 1/22/2010

Generator: Enterprise Products Operating, L.P. - Port Allen
Address: 2220 North River Rd.
Port Allen, LA 70767

Waste Information

Name of Waste: Spent potassium hydroxide.
TCEQ Waste Code #: OUTS106H
Container Type:
Detailed Description of Process Generating Waste:
Sweetening natural gas liquid before running the merox process. The natural gas liquid i fractionated to remove C4 and lower. C5 and higher are run through the merox process.
Color: Dark **Odor:** Ammonia **pH:** 12-14
Physical State:
Incompatibilities: Acids
Safety Related Data/Special Handling:
Std PPE for high pH materials w/sulfides

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	Enterprise Products Operating, LP - Port Allen		
Address:	2220 North River Rd.		
City, State, Zip:	Port Allen, LA 70767		
Contact:	Roy Hebert	**Title:**	Field Environmental Scientist
Phone No:	225-381-3459	**Fax No:**	225-381-3476
24/hr Phone:	225-381-3459		
U.S. EPA I.D. No:	LAR000033100		
State I.D.	G-121-10915 D0022	**SIC Code:**	NA

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Waste

Name of Waste: Spent Potassium Hydroxide
Detailed Description of Process Generating Waste: Sweetning natural gas liquid before running the merox process. The natural gas liquid is fractionated to remove C4 and lower. C5 and higher are run through the merox process.

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Dark **Odor:** Ammonia

Specific Gravity (water=1): 1.203 **Density:** 10.03 lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type:	☐ Drum	☐ Tote	☒ Truck	☐ Other (explain)
Container Size:	____	____	4000	____

Frequency: ☐ Weekly ☒ Monthly ☐ Quarterly ☐ Yearly
Number of Units (containers): 1-2 **Other:** ____
Texas State Waste Code No: 08TS106H D002, D004 FOR RECYCLE
Proper U.S. DOT Shipping Name: Waste corrosive liquids, n.o.s. (potassium hydroxide)
Class: 8 **UN/NA:** UN1760 **PG:** II **RQ:** 1000

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
>150	12-14	NAmg/l	NAmg/l	0-2%

Oil&Grease	TOC	Zinc	Copper	Nickel
NAmg/l	NAmg/l	NAmg/l	NAmg/l	NAmg/l

EPAHO107000217

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
Water	75-80	%
Potassium Hydroxide	20-25	%
Carbon	1-2	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Standard PPE for high pH materials w/ sulfides

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
None

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
~~None Known~~ Acids

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: x
TCLP Volatiles: x
TCLP Semi-Volatiles: x
Reactivity: x
Corrosivity: x
Ignitability: x

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above an attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willfi omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materia tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 1-21-08

Printed Name/Title: Rory Hebert/Field Environmental Scientist

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: _____

Date: 1-22-08 Approved Rejected

Approval Number: 2598

OK to mix with Deridder cargo only ! Any hydrocarbons on top of load put into hydrocarbon mixture totes. To QC: Sp Gr., % suspended solids, pH, and a visual for oil and grease (no oil or grease allowed). Also determine the % caustic by either titration to pH 4 or by using Sp. Gr. , and the "handy math calculation" - see shared drive. Sulfides must be low. QC - If solids <.75% & caustic >7% (by Sp.Gr.; 5% by titration), load in De Ridder trlr. If there are no De Ridder trlrs, load into De Ridder frac tank. If solids <.75% ~~& caustic <7%~~, put in RO tank ~~and process RO if solids higher~~ filter ~~before putting in RO tank~~ press (add for solids >.75% + trucking + FSC. and

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000219

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in exces of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000220

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Matt Bowman
Cc: Gary Lenertz
From: Miles Root

Date: 01/17/08

Lab Memo: 08-008

Subject: **Enterprise KOH Stream - Sample Evaluation 0108-35**

A sample of potassium hydroxide from Enterprise Products, Port Allen, LA has been evaluated as a potential sale to Deridder. The sample is dark from suspended particulates, but contains no oils by centrifuge. Solids by centrifuge are approximately 1.5 vol%. The sample also has an odor of ammonia. The KOH concentration was determined by titration to pH 7.0 with the MW of 56 used instead of the 40 as used for NaOH samples.

A summary of the test results follows:

Specific Gravity – 1.203 @ 15.5 deg C
KOH – 20.7 wt%
Oil, by centrifuge – none detected
Solids, by centrifuge – 1.5 vol%
Sulfides – present
Ammonia odor present in sample.

As a side note, the CRC Handbook lists the percentage of a pure KOH solution in water as 22.0 wt% with a density of 1.2035 @ 20 deg C, indicating that our testing method is not too far off.

225-381-3459
Roy Herbert
email RJHeberte EPROD.com
RJ Heberte
eprod.com
phone: 225-381-3459
cell 225-228-5496
Propylene Contractor Port Allen, LA

2599 Sky Transportation
2599

EPAHO107000222

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **1/22/2008**

Dear **Jesse Garza**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2599

Expiration Date 1/22/2010

Generator: Slay Transportation Company
Address: 16643 Jacinto Port Blvd (Attn: Ray Jeannott)
Houston, TX 77015

Waste Information

Name of Waste: Unusable hoses
TCEQ Waste Code #: Recycle
Container Type: bundle
Detailed Description of Process Generating Waste:
RCRA empty hose
Color: varies **Odor:** none **pH:** na
Physical State:
Incompatibilities: none
Safety Related Data/Special Handling:
none

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

DC

CES Environmental Services, Inc.

4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	Slay Transportation		
Address:	16643 Jacinto Port Blvd (Attn: Ray Jeannott)		
City, State, Zip:	Houston, TX 77015		
Contact:	Jesse Garza	**Title:**	
Phone No:	713-201-2469	**Fax No:**	281-452-2699
24/hr Phone:			
U.S. EPA I.D. No:	TXR000008920		
State I.D.	84084	**SIC Code:**	n/a

SECTION 2: Billing Information – ☒ Same as Above

Company:			
Address:			
City, State, Zip:			
Contact:		**Title:**	
Phone No:		**Fax No:**	

SECTION 3: General Description of the Waste

Name of Waste: unusable hoses
Detailed Description of Process Generating Waste: RCRA-empty hose

Physical State: ☐ Liquid ☐ Sludge ☐ Powder ☒ Solid ☐ Filter Cake ☐ Combination

Color: varies **Odor:** n/a

Specific Gravity (water=1): n/a **Density:** n/a lbs/gal

Layers: ☒ Single-phase ☐ Multi-phase

Container Type: ☐ Drum ☐ Tote ☐ Truck ☒ Other (explain)
Container Size: ____ ____ ____ ~~bar~~ hose (bundle)

Frequency: ☐ Weekly ☒ Monthly ☐ Quarterly ☐ Yearly
Number of Units (containers): ____ **Other:** cu. yds
Texas State Waste Code No: Recycle
Proper U.S. DOT Shipping Name: Non-RCRA/Non-Regulated Material
Class: n/a **UN/NA:** n/a **PG:** n/an/a **RQ:** n/a

Flash Point	pH	Reactive Sulfides	Reactive Cyanides	Solids
n/a	n/a	n/a mg/l	n/amg/l	~~n/a%~~ 100

Oil&Grease	TOC	Zinc	Copper	Nickel
n/amg/l	n/amg/l	n/amg/l	n/amg/l	n/amg/l

EPAHO107000224

SECTION 4: Physical and Chemical Data

COMPONENTS TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
~~unusable hose~~ RCRA empty unusable hose	100	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
none

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
none

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
none

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: x
TCLP Volatiles: x
TCLP Semi-Volatiles: x
Reactivity: x
Corrosivity: x
Ignitability: x

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☐ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: _____ **Date:** 1/22/2008

Printed Name/Title: Jesse Garza

CES USE ONLY (DO NOT WRITE IN THIS SPACE)	**Process Facility Information:**
Compliance Officer: Richard Reynolds Date: 1-22-08 Approved Rejected Approval Number: 2599	$120/ cu yd $300 packaging fee REC

EPAHO107000225

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☐ YES ☒ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☐ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

EPAHO107000226

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000227

SLAY TRANSPORTATION

[MATERIAL SAFETEY DATA SHEETS]

EPAHO107000228

7E
T-34
LAB
8-4-09

ATTN: J. Brown

MATERIAL SAFETY DATA SHEET

Stepan

1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Trade Name	**STEPANTEX HTS-100**
Manufacturer	Stepan Company 22 West Frontage Road Northfield, IL 60093 USA

Telephone Numbers - 24 Hour Emergency Assistance

Medical	800-228-5635
Chemtrec	800-424-9300
Chemtrec Int'l	703-527-3887

Telephone Numbers - General Assistance

General	(847) 446-7500

Product Class	Quaternary
Product Number	3521

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Percent
Quaternary ammonium salts	Confidential	40 - 70 %

3 HAZARDS IDENTIFICATION

Emergency Overview

Solid, off-white color. (room temperature)

May cause irritation to the eyes, skin, and respiratory system.

Health Effects: Eyes

This product may cause irritation to the eyes.

Health Effects: Skin

This product may cause irritation to the skin.

Health Effects: Inhalation

Inhalation of vapors or mists of the product may be irritating to the respiratory system.

Health Effects: Ingestion

This product may be harmful if it is swallowed.

4 FIRST AID MEASURES

Eyes

Immediately flush eyes with water for at least 15 minutes while holding eyelids open. If irritation persists get medical attention.

Skin

Immediately take off all contaminated clothing.For skin contact, flush with large amounts of water. If irritation persists, get medical attention.Wash contaminated clothing before reuse.

Inhalation

If symptoms are experienced, remove source of contamination or move victim to fresh air.If symptoms persist, get medical attention.If the affected person is not breathing, apply artificial respiration.If breathing is difficult, give oxygen.Seek medical attention.

Ingestion

If the material is swallowed, get immediate medical attention or advice.Do not induce vomiting.

5 FIRE FIGHTING MEASURES

Flash Point (> 93.9 °C), > 201 F PMCC

OSHA Flammability Classification Combustible IIIB

Extinguishing Media

Dry chemical, foam, carbon dioxide, water fog.

Fire Fighting Equipment / Instructions

Firefighters should wear full fire-fighting turn-out gear (full Bunker gear) including NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6 ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES

Emergency Action:
Isolate spill or leak area immediately.Keep unauthorized personnel away.Stay upwind.Keep out of low areas.Ventilate closed spaces before entering.

Do not touch or walk through spilled material.Stop leak if you can do it without risk.Wear appropriate personal protective equipment during cleanup.Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.With clean shovel place material into clean, dry container; move containers from spill area.Prevent entry into waterways, sewers, basements or confined areas.

7 HANDLING & STORAGE

Handling Procedures

Avoid contact with skin and eyes.Wash thoroughly after handling.As with all chemicals, good industrial hygiene practices should be followed when handling this material.

Storage Procedures

Do not handle or store near an open flame, heat or other sources of ignition.Keep the container tightly closed and in a cool, well-ventilated place.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Use general ventilation.Local exhaust is suggested for use, where possible, in enclosed or confined spaces.

Personal Protective Equipment: Eyes/Face

Wear chemical goggles; face shield (if splashing is possible).

Personal Protective Equipment: Skin

Work clothing sufficient to prevent all skin contact should be worn, such as coveralls and long sleeves.Use impervious gloves.

Personal Protective Equipment: Respiratory

If vapors are present or irritation is experienced, NIOSH approved respiratory protection for ammoniacal vapors should be worn.

Personal Protective Equipment: General

Eye wash fountain and emergency showers are recommended.

9 PHYSICAL & CHEMICAL PROPERTIES

Flash Point	(> 93.9 °C), > 201 F PMCC
Specific Gravity	(0.963 g/ml), 8.01 lb/gal @ 25C
Percent Volatile	NIL
Viscosity	171 cps @ 67C
RVOC	0 %
pH Value	2.5 - 4 5% in IPA/H2O

Appearance and Odor

Solid, off-white color. (room temperature)

10 STABILITY & REACTIVITY

Chemical Stability

Stable under normal conditions.

Incompatibility

This product may react with strong oxidizing agents, alkalies.

Hazardous Decomposition

Upon decomposition, this product may yield sulfur dioxide and oxides of sulfur.Upon decomposition, this product may yield oxides of nitrogen and ammonia.

Hazardous Polymerization

Will not occur.

11 TOXICOLOGICAL INFORMATION

Carcinogenicity

Not listed as carcinogenic according to IARC, NTP or OSHA.

12 ECOLOGICAL INFORMATION

Ecotoxicity

No data available on finished product.

EPAHO107000232

13 DISPOSAL CONSIDERATIONS

Disposal Instructions

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations. Regulations may vary in different locations. Characterization and compliance with applicable laws are the responsibility solely of the generator.

14 TRANSPORT INFORMATION

DOT Proper Shipping Name Refer to bill of lading or container label for DOT or other transportation hazard classification, if any.

15 REGULATORY INFORMATION

Ingredient Name	CAS Number	Percent
Quaternary ammonium salts	Confidential	40 - 70 %

Inventories

All components of this product are listed on the following inventories:U.S.A.(TSCA), Canada(DSL), Europe(EINECS/ELINCS/Polymer/NLP), Australia(AICS),

There is no calculable reportable quantity (RQ) for this product.

16 OTHER INFORMATION

Disclaimer

Disclaimer: Nothing contained herein grants or extends a license, express or implied, in connection with patents, issued or pending, of the manufacturer or others. The information contained herein is based on the manufacturer's own study and the works of others. The manufacturer makes no warranties, expressed or implied, as to the accuracy, completeness, or adequacy of the information contained herein. The manufacturer shall not be held liable (regardless of fault) to the vendee's employees, or anyone for any direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing of such information.

HAZARD RATINGS	HMIS	NFPA
Health	1	1
Flammability	1	1
Reactivity	0	0
PPE	X	

Completed On	9/19/03	**Replaces Sheet Dated**	08/04/2003
Completed By	**Product Safety & Compliance**		

P. 1

PRODUCT NAME : MONOETHANOLAMINE
PRODUCT CODE : 07024 460# RECON D
Date: 4-FEB-1997 08:24:33.50

CAS #: 000141435 MSDS No. 000898 Revision No./Date 01 931006
Detail Number 00421/01

FORMULA: C2 H7 NO
CHEM. FAMILY: organic bases
CHEMICAL NAME AND SYNONYMS:
Monoethanolamine;
2-Hydroxyethylamine; 2-Aminoethanol; B-Aminoethyl Alcohol;
Ethanolamine; MEA;
MSDS 000898 DETAIL 00421
SUPPLIERS NAME :

DESTARA CHEMICALS, INC.
Mailing Address: P.O. Box 42437 • Houston, Texas 77242
Shipping Address: 18314 Mathis Rd. • Waller, Texas 77484
(409) 372-9167

SUPPLIERS PHONE NUMBER :
TRANSPORTATION EMERGENCY PHONE NUMBER : 1-800-424-9300

S.A.R.A. INFORMATION

HAZARDS : Acute Chronic
PHYSICAL DATA : Pure Liquid

SECTION I HAZARDOUS INGREDIENTS

Ingredient Cas Number	MAX % W/W	SARA APPLIES 312	313	372	AIR CONTAMINENT LEVELS TWA/TLV (ppm)	STEL (ppm)	CEIL (ppm)	SKIN	AGENT
Monoethanolamine	100.0	Y	N	N	3	6		N	OSHA
2-Aminoethanol (CAS # 141-43-5)					3	6		N	ACGIH

SECTION II HEALTH HAZARDS

POTENTIAL EFFECTS OF EXPOSURE
EYES
Eye contact with product may cause severe irritation irreversible damage
SKIN
Skin contact may cause burns excess fluid retention (edema, blistering) severe damage
Absorption thru skin may cause symptoms described under inhalation and ingestion.
INHALATION
Inhalation may cause irritation coughing pain
Prolonged or repeated overexposure by inhalation may cause bronchitis pneumonia
INGESTION
Ingestion may cause drowsiness weakness gastrointestinal damage even death

Continued On Page 2

HP FAX
FROM: Wendy
DATE: 5/10
TO: James Slay
DEPT:
CO:
FAX:
5-10-200 10:04AM FROM SKYHAWK CHEMICALS 713 957 0345
EPAHO10700234

P.2
5-10-200 10:05AM FROM SKYHAWK CHEMICALS 713 957 0345
EPAHO107000235

PRODUCT NAME : MONOETHANOLAMINE Date: 4-FEB-1997 08:24:41.25
PRODUCT CODE : 07024 460# RECON D

SECTION II HEALTH HAZARDS (CONTINUED)

TARGET ORGANS
OVEREXPOSURE MAY CAUSE DAMAGE TO,
eyes respiratory system life cycle
FIRST AID
FIRST AID EYES
Immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids apart to ensure flushing of entire surface. Call a physician.
FIRST AID SKIN
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Thoroughly clean clothing before reuse. Discard contaminated shoes and contaminated leather articles. Call a physician.
FIRST AID INHALATION
Remove to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. If breathing is difficult give oxygen. Call a physician.
FIRST AID INGESTION
Do not induce vomiting. Rinse mouth with water. Dilute stomach contents by drinking water. If vomiting occurs spontaneously, keep head below hips to prevent breathing vomit into lungs. Call a physician immediately.
OTHER INFORMATION
ROUTES OF ENTRY
eye contact skin absorption inhalation
OVEREXPOSURE MAY AGGRAVATE DISORDERS OF THE
eyes respiratory system skin

SECTION III SPECIAL PROTECTION

PROTECTIVE EQUIPMENT
PROTECTIVE EQUIPMENT EYES
chemical goggles faceshield Do Not wear contact lenses when working with chemicals.
PROTECTIVE EQUIPMENT SKIN
impervious gloves chemical resistant clothing rubber boots
PROTECTIVE EQUIPMENT INHALATION
If exposure limits are exceeded, or if exposure may occur, use a NIOSH/MSHA respirator approved for your conditions of exposure. Refer to the most recent NIOSH publications concerning chemical hazards, or consult your safety equipment supplier. Respiratory protection programs must be in compliance with OSHA requirements in 29 CFR 1910.134. For emergencies, a NIOSH/MSHA approved positive pressure breathing apparatus should be readily available.
VENTILATION REQUIRED:
Adequate ventilation is required to minimize exposure or to maintain exposure levels below OSHA/ACGIH requirements.
ADDITIONAL PROTECTIVE MEASURES
Safety shower, eye wash fountain, and washing facilities should be readily available.

SECTION IV FIRE & EXPLOSION HAZARD DATA

Continued On Page 3

P.3

Flash Point (METHOD): > OR = 204 deg. F (PMCC)
Flammable Limits (% Volume in Air) UPPER: 17.0 Lower: 5.0

HMIS Info Health : 3
Fire : 1
React : 0
Special : X

EXTINGUISHING MEDIA
dry chemical foam carbon dioxide
FIRE FIGHTING PROCEDURES
Prevent human exposure to fire, fumes, smoke, and products of combustion. Evacuate non essential personnel. Firefighters should wear full face, self contained breathing apparatus and impervious protective clothing. Use water to cool containers exposed to fire. Direct streams of water may splash and spread flaming liquid.
UNUSUAL FIRE & EXPLOSION HAZARDS
Hot organic chemical vapors may spontaneously ignite or explode when mixed with air, even at temperatures below their published autoignition temperature.

SECTION V PHYSICAL DATA

Boiling Point: > OR = 340 deg. F
Freezing Point: 51 deg. F
Specific Gravity (H(2)O=1): > OR = 1.0200 @ 68 deg. F
Vapor Pressure (MM HG.): < 1.000 @ 68 deg. F
Vapor Density (AIR=1) : > OR = 2.00000
Evaporation Rate (N-Butyl Acetat =1): > OR = 0.1000
Solubility in Water: COMPLETE
Percent Volatile by Volume: N/D
pH: aqueous approx. > OR = 11.000
Appearance:
COLORLESS TO LIGHTLY COLORED LIQUID

Odor :
MILD

SECTION VI REACTIVITY DATA

STABILITY
Stable
INCOMPATABILITY
amphoteric metals inorganic acids organic acids bleaching agents (oxidizers) Avoid contact with bleaching agents and oxidizers which include chlorine, oxygen, permanganates, perchlorates,

Continued On Page 4

5-10-200 10:05AM FROM SKYHAWK CHEMICALS 713 957 0345

EPAHO10700236

P.4

PRODUCT NAME : MONOETHANOLAMINE Date: 4-FEB-1997 08:25:05.67
PRODUCT CODE : 07024 460# RECON D

SECTION IX ADDITIONAL INFORMATION (CONTINUED)

Since emptied container contains product residues (vapor or liquid), all labeled hazard precautions must be observed.

STORAGE

Keep container closed when not in use. Store in a cool dry place. Keep out of reach of children.

NAME: GENE TURNER

DATE ISSUED: 931006
DATE REVISED: 931006

< = LESS THAN
> = MORE THAN
N/A = NOT APPLICABLE
N/D = NOT DETERMINED
N/E = NOT ESTABLISHED
UNK = UNKNOWN

The information provided in this Material Safety data sheet has been obtained from sources believed to be reliable. Harcros Chemicals Inc provides no warranties, either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein. This information is offered for your information, consideration , and investigation. You should satisfy yourself that you have all current data relevant to your particular use. Harcros Chemicals Inc knows of no medical condition, other than those noted on this material safety data sheet, which are generally recognized as being aggravated by exposure to this product.

5-10-200 10:06AM FROM SKYHAWK CHEMICALS 713 957 0345

EPAHO10700237

OCCIDENTAL CHEMICAL
MATERIAL SAFETY DATA SHEET

MSDS NUMBER: M7592

MSDS DATE: 02-29-88

PRODUCT NAME: **CHLOROWAX 45AO**

24 HOUR EMERGENCY PHONE: (716) 278-7021

I. PRODUCT IDENTIFICATION

1 HEALTH HAZARD, 1 FIRE HAZARD, & 1 REACTIVITY
Based on the National Paint & Coatings Association HMIS rating system.

MANUFACTURER'S NAME AND ADDRESS	:	Occidental Chemical Corporation Customer Service, Occidental Tower, P O Box 809050, Dallas, Texas 75380	Telephone (1-800-752-5151)

CHEMICAL NAME: Chlorinated alpha-olefin CAS NUMBER: 68527-02-6

SYNONYMS/COMMON NAMES: Liquid Chlorinated alpha-olefin

CHEMICAL FORMULA: C12H23Cl3

DOT PROPER SHIPPING NAME: NA

DOT HAZARD CLASS: NA

DOT I.D. NUMBER: NA HAZARDOUS SUBSTANCE: NA

II. HEALTH HAZARD INFORMATION

EMERGENCY AND FIRST AID PROCEDURES

EYES:
Object is to flush material out, then seek medical attention. Immediately flush eyes with large amounts of water for at least 15 minutes, holding lids apart to ensure flushing of the entire eye surface. SEEK MEDICAL ATTENTION.

SKIN:
Wash contaminated areas with soap and water remove contaminated clothing. Do not use solvents for cleaning. IF IRRITATION OCCURS, SEEK MEDICAL ATTENTION.

INHALATION:
Under fire conditions, get person out of contaminated area to fresh air. If breathing has stopped, resuscitate and administer oxygen, if readily available. SEEK MEDICAL ATTENTION IMMEDIATELY.

INGESTION:
NEVER give anything by mouth to an unconscious person. If swallowed, DO NOT INDUCE VOMITING. If vomiting occurs spontaneously, keep airway clear. SEEK MEDICAL ATTENTION IMMEDIATELY.

CAS = Chemical Abstract Service Number
PEL = OSHA Permissible Exposure Limit
TLV = ACGIH Threshold Limit Value, Current
ND = No relevant information found or not available
NA = Not applicable
CORP = Corporate Exposure Limit

IMPORTANT: The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. NO WARRANTY, OR GUARANTY EXPRESS OR IMPLIED IS MADE REGARDING PERFORMANCE, STABILITY OR OTHERWISE. This information is not intended to be all-inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. While our technical personnel will be ready to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestion for use is intended as and nothing herein shall be construed as

OCCIDENTAL CHEMICAL
MSDS NUMBER: M7592
PRODUCT NAME: CHLOROWAX 45AO

II. HEALTH HAZARD INFORMATION (Continued)

ROUTES OF EXPOSURE

INHALATION:
Under normal conditions, this product is nontoxic however, under significant decomposition conditions, mild to moderate irritation of the upper respiratory tract can occur due to evolution of hydrogen chloride gas.

SKIN:
May produce mild irritation which is readily reversible. Not known to be a sensitizer. Not readily absorbed through skin.

EYE CONTACT:
May produce mild transient irritation.

INGESTION:
Not expected to produce toxic effects when ingested.

EFFECTS OF OVEREXPOSURE

ACUTE:
May produce mild, reversible skin and eye irritation.

CHRONIC:
The toxicity profile would suggest a slight hazard to those chronically exposed to this product. The liver is the probable target organ, should massive systemic poisoning occur.

HEALTH HAZARD DATA:
No skin sensitization is associated with the handling of this product.

III. HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	HAZARD DATA	CAS NUMBER	%
Chlorinated alpha-olefin	PEL= None established TLV= None established	68527-02-6	100

See Section II

This material is listed in the TSCA Inventory.
Not listed as carcinogen - IARC, NTP, OSHA, ACGIH

IV. FIRE AND EXPLOSION DATA

FLASH POINT: >204°C AUTOIGNITION TEMPERATURE: NA

FLAMMABLE LIMITS IN AIR, % BY VOLUME- UPPER: Nonflammable
LOWER: Nonflammable

EXTINGUISHING MEDIA:
Fires involving this product are unlikely, but should one occur, it may be controlled by carbon dioxide, dry chemical, foam, or water fog.

SPECIAL FIRE FIGHTING PROCEDURES:
Pressure-demand, self-contained breathing apparatus should be provided for fire fighters in buildings or confined areas where this product is stored. This product at high temperatures, releases hydrogen chloride gas. Storage containers exposed to fire should be kept cool with water spray in order to prevent pressure build-up.

UNUSUAL FIRE AND EXPLOSION HAZARD:
This product is nonflammable and nonexplosive under normal conditions of use. Over-pressurization of containers will also occur if exposed to excessive heat. This product flows freely when hot and should, therefore, be treated as an oil when exposed in a fire.

V. SPECIAL PROTECTION

VENTILATION REQUIREMENTS:
No special ventilation required under normal use. Use local exhaust ventilation where the product is heated; or mist, spray, dust, or vapor may be generated.

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY:
Respiratory protection is not required under normal use. Use NIOSH/MSHA approved respiratory protection following manufacturer's recommendation where mist, spray, dust or vapor may be generated and where the product is heated.

EYE:
Face shield and goggles or chemical goggles should be worn where mist, spray or dust may be generated or where the product is heated.

GLOVES:
Impervious gloves should be worn. Cotton gloves have been recommended.

OTHER CLOTHING AND EQUIPMENT:
Standard work clothing. Standard work shoes. Shoes that cannot be decontaminated should be discarded. Wash contaminated clothing with soap and water and dry before reuse. Shower and eyewash facilities should be accessible.

MONITORING EXPOSURE

BIOLOGICAL:
No applicable methods.

PERSONAL/AREA:
Procedures applicable to total dust or mist can measure exposure, the low vapor pressure minimizes loss during sampling.

VI. PHYSICAL DATA

BOILING POINT @ 760 mm Hg: NA

MELTING POINT NA

VAPOR PRESSURE NA

SPECIFIC GRAVITY (H_2O=1): 1.10 @ 25°C

SOLUBILITY IN H_2O % BY WT. Negligible

VAPOR DENSITY (Air=1): NA

APPEARANCE AND ODOR. Clear to light amber liquid with a slight odor

pH: NA

VII. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:
Elevated temperatures and strong alkalies will promote the decomposition of this product. The thermal decomposition is a time/temperature relationship. At normal room temperatures, decomposition is virtually nil.

INCOMPATIBILITY:
This product will deteriorate with subsequent darkening and eventual decomposition when exposed to elevated temperatures or strong alkalies. The presence of iron or zinc in any form will catalyze this deterioration.

HAZARDOUS DECOMPOSITION PRODUCTS:
Under fire conditions, this product will decompose to give off hydrogen chloride gas and traces of fragmented short-chain hydrocarbons. Under these conditions, sufficient hydrogen chloride is given off to necessitate the use of self-contained breathing apparatus. Held at 175°C for 4 hours, this product will give off a maximum of 0.5 weight percent hydrogen chloride.

The presence of iron or zinc in any form will catalyze the decomposition of this product with resulting greater release of hydrogen chloride. Your technical service representative will be pleased to assist you in evaluating any proposed use of this product.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:
Not known to polymerize.

VIII. HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS:
To prevent deterioration, with subsequent discoloration and possible decomposition with liberation of hydrogen chloride gas, storage temperatures for this product should not exceed 66°C.

IX. ENVIRONMENTAL PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:
If material is spilled or released to the atmosphere, steps should be taken to contain liquids and prevent discharges to streams or sewer systems; and control or stop loss of volatile materials to the atmosphere. Spills or releases should be reported, if required to the appropriate local, state and federal regulatory agencies.

WASTE DISPOSAL METHOD:
Clean-up action should be carefully planned and executed. Shipment, storage, and/or disposal of waste materials are regulated and action to handle spilled or released materials must meet the applicable rules. If any question exists, the appropriate agencies should be contacted to assure proper action being taken.

X. ADDITIONAL INFORMATION

OSHA Standard 29CFR 1910.1200 requires that information be provided employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records

Note: For additional Non-Emergency health, safety, or environmental information, telephone (716) 286-3081.

For Emergencies: 24 HOUR EMERGENCY PHONE: (716) 278-7021

WARNING LABEL INFORMATION

SIGNAL WORD: CAUTION!

STATEMENT OF HAZARDS:
MAY CAUSE IRRITATION OF SKIN AND EYES.

PRECAUTIONARY STATEMENTS:
Avoid contact with eyes, skin, and clothing.
Wash thoroughly after handling.
Do not take internally.
KEEP OUT OF REACH OF CHILDREN.
See the Material Safety Data Sheet for more detailed information on safe handling.

FIRST AID:

IN CASE OF CONTACT:

FOR EYES:
Immediately flush with plenty of water for at least 15 minutes, holding eyelids apart to ensure flushing of entire eye surface. SEEK MEDICAL ATTENTION.

FOR SKIN:
Wash contaminated areas with soap and water, remove contaminated clothing. Do not use solvents for cleaning. IF IRRITATION OCCURS, SEEK MEDICAL ATTENTION.

IF INHALED:
Under fire conditions, get person out of contaminated area to fresh air. If breathing has stopped, resuscitate and administer oxygen, if readily available. SEEK MEDICAL ATTENTION IMMEDIATELY.

IF SWALLOWED:
NEVER give anything by mouth to an unconscious person. If swallowed, DO NOT INDUCE VOMITING. If vomiting occurs spontaneously, keep airway clear. SEEK MEDICAL ATTENTION IMMEDIATELY.

IN CASE OF:

SPILL OR LEAK:
Observe handling precautions. Leaks should be stopped. Spills should be contained, then cleaned up using vacuum truck or absorbent material and removed to approved waste disposal area.

FIRE:
Use pressure-demand, self-contained breathing apparatus as this product, at high temperatures, releases hydrogen chloride (HCl) gas.

HANDLING AND STORAGE:
To prevent deterioration, with subsequent discoloration and possible decomposition with liberation of hydrogen chloride gas, storage temperatures for this product should not exceed 66°C.

Package, store, transport and dispose of all clean-up materials and any contaminated equipment in accordance with all applicable federal, state, and local health and environmental regulations. Shipments of waste materials may be subject to manifesting requirements per applicable regulations. Appropriate disposal will depend on the nature of the waste material and should be performed by competent and properly permitted contractors. Ensure that all responsible federal, state, and local agencies receive proper notification of disposal.

HMIS RATING SYSTEM: HEALTH 1 FLAMMABILITY 1 REACTIVITY 1

FOR INDUSTRIAL USE ONLY LABEL 091787M7592

EXXON CHEMICAL

MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

(b) (4)

[redacted]

EXXON CHEMICAL

MATERIAL SAFETY DATA SHEET

EXXON CHEMICAL AMERICAS, P.O. BOX 3272, HOUSTON, TEXAS 77001
A Division of EXXON CHEMICAL COMPANY, A Division of EXXON CORPORATION

(b) (4)

[redacted]

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(b) (4)

[redacted]

SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

		HAZARD RATINGS	HMIS	NFPA
MANUFACTURER'S NAME	: SCHENECTADY INTERNATIONAL, INC.		H 3	
STREET ADDRESS	: P.O. BOX 1046		F 1	
CITY, STATE, ZIP CODE	: SCHENECTADY, NEW YORK 12301		R 0	
EMERGENCY TELEPHONE NO.	: (518) 370-4200		PP C	

DOT RESPONSE GUIDE NUMBER: 55

TRADE NAME : PARA-NONYLPHENOL (PNP)
FIRE FIGHTERS GUIDE NO : A-132

CHEMICAL NAME/CLASS: PARA-NONYLPHENOL (CAS # 84852-15-3*)
NIOSH NO : SM5600000
TSCA : THIS PRODUCT OR ITS CONSTITUENTS ARE LISTED ON TSCA INVENTORY.
TRADE SECRET : THIS MATERIAL IS NOT CONSIDERED TO REPRESENT CONFIDENTIAL BUSINESS INFORMATION TO SII.
LAST REVIEW DATE/BY: 04/01/98 MJG

SECTION II (A) - HAZARDOUS SUBSTANCES (29 CFR 1910.1200)

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
PARA-NONYLPHENOL	84852-15-3*	NO	90.0000-100.0000	5@154	N/A

SECTION II (B) - MATERIALS CAPABLE OF RELEASE DURING PROCESSING

THE FOLLOWING SUBSTANCES MAY BE CAPABLE OF BEING RELEASED DURING STORAGE, HANDLING, AND/OR PROCESSING AND MAY NOT BE REFLECTED IN THIS MSDS' SECTION II (A). SCHENECTADY INTERNATIONAL, INC. DOES NOT CONSIDER THEM TO REPRESENT A PHYSICAL OR HEALTH HAZARD DURING NORMAL OPERATIONS. HOWEVER, THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO PROVIDE A SAFE WORK PLACE AND, THUS, THEY MUST REVIEW THEIR OPERATIONS AND DEVELOP APPROPRIATE WORK PRACTICE GUIDELINES AND EMPLOYEE PROTECTION AND INSTRUCTIONAL PROGRAMS.

SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

CONDITIONS TO AVOID:
DURING A CURING/REACTION PROCESS, TOXIC BYPRODUCTS MAY BE EMITTED. DO NOT REROUTE VENTED GASES BACK INTO WORK AREA.

SECTION II (C) - NON-HAZARDOUS SUBSTANCES (29 CFR 1910.1200)

THE FOLLOWING SUBSTANCES ARE PRESENT IN THIS MATERIAL BUT ARE NOT CONSIDERED BY SCHENECTADY INTERNATIONAL, INC. TO PRESENT PHYSICAL OR HEALTH HAZARDS PER 29 CFR 1910.1200.

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

SECTION III (A) - HAZARDS IDENTIFICATION FOR MATERIALS IN SECTION II (A)

PARA-NONYLPHENOL

ANSI SIGNAL WORD FOR THIS MATERIAL IS: DANGER

RISKS:

HEALTH DANGERS : CAUSES EYE BURNS. CAUSES SKIN BURNS.

HEALTH WARNINGS : MAY CAUSE RESPIRATORY TRACT IRRITATION. LUNG IRRITANT.

TO WORK SAFELY WITH THIS MATERIAL:

DO NOT GET IN EYES, ON SKIN OR CLOTHING. AVOID BREATHING MATERIALS' VAPOR, DUST OR FUMES. KEEP CONTAINER CLOSED. USE WITH ADEQUATE VENTILATION.

SECTION III (B) - HAZARDS IDENTIFICATION FOR MATERIALS IN SECTION II (B)

NOT APPLICABLE

SECTION III (C) - HAZARDS IDENTIFICATION FOR MATERIALS IN SECTION II (C)

NOT APPLICABLE

SECTION IV - EMERGENCY FIRST AID PROCEDURES

RESCUE

IF A PERSON IS INVOLVED IN A HAZARDOUS EXPOSURE SITUATION, MOVE THE AFFECTED PERSON FROM THE AREA. IF THE PERSON IS "OVERCOME"", IMMEDIATELY CONTACT MEDICAL AUTHORITIES AND IMPLEMENT APPROPRIATE EMERGENCY RESCUE PROCEDURES. DO NOT BECOME A CASUALTY--FOLLOW THE FACILITY'S EMERGENCY PROCEDURES AND UTILIZE PERSONAL PROTECTIVE EQUIPMENT AS NECESSARY. FOLLOW OTHER FIRST AID PROCEDURES DEPENDING UPON THE TYPE AND EXTENT OF EXPOSURE.

EMERGENCY FIRST AID

IN THE EVENT OF AN EMERGENCY, OR AN UNEXPECTED ACUTE OVEREXPOSURE TO THE MATERIAL, THE NTIS RECOMMENDS INSTITUTING APPLICABLE FIRST AID PROCEDURES AND IMMEDIATELY SENDING FOR PROPER MEDICAL ASSISTANCE. THE "EMERGENCY CARE FOR HAZARDOUS MATERIALS" BOOK AND/OR NTIS SUGGEST THE FOLLOWING "BASIC" TREATMENT GUIDELINES FOR ADULT PATIENTS FOR MATERIALS IN THE NOTED DOT CLASSIFICATION USING GOOD, APPROPRIATE EMS PROTOCOLS.

SYMPTOMS

CARDIOVASCULAR	:	MILD TACHYCARDIA.
CNS	:	NUMBNESS OF MOUTH AND TONGUE; CNS DEPRESSION; INCOORDINATION; SEIZURES.

EYE	:	CHEMICAL CONJUNCTIVITIS.
GASTROINTESTINAL	:	NAUSEA; VOMITING; ABDOMINAL PAIN.
LIFE	:	ASPHYXIA FROM RESPIRATORY ARREST.
RESPIRATORY	:	RESPIRATORY TRACT IRRITATION; EXPOSURE MAY CAUSE RESPIRATORY STIMULATION AT FIRST FOLLOWED BY DEPRESSION; RESPIRATORY PARALYSIS.
SKIN	:	IRRITATION; CYANOSIS.

TREATMENT

ANTIDOTE	:	INFORMATION NOT AVAILABLE.

CNS	:	MONITOR FOR SHOCK AND TREAT IF NECESSARY.
EYE	:	FLUSH EYES IMMEDIATELY FOR AS LONG AS 15 MINUTES WITH LARGE AMOUNTS OF WATER, OR NORMAL SALINE SOLUTION, LIFTING THE LOWER AND UPPER LIDS OCCASIONALLY OR, IF APPROPRIATE, USE EYE IRRIGATION LENS. IF THERE ARE ANY SIGNS OF EYE IRRITATION OR CHEMICAL BURNS, OBTAIN PROMPT MEDICAL ATTENTION.
GASTROINTESTINAL	:	ADMINISTER 4 TO 8 OUNCES OF WATER FOR DILUTION IF PRODUCT WAS INGESTED AND THE PATIENT CAN SWALLOW, HAS A GOOD GAG REFLEX, AND NO DROOLING. DO NOT USE EMETICS. NEVER GIVE ANYTHING TO AN UNCONSCIOUS PERSON.
RESPIRATORY	:	MOVE THE PATIENT TO FRESH AIR AT ONCE; ASSIST VENTILATION AS NEEDED; AND ADMINISTER OXYGEN, IF NECESSARY, BY NON-REBREATHER MASK AT 6-12 LITERS PER MINUTE. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP THE AFFECTED PERSON WARM, AND AT REST, WHILE OBTAINING MEDICAL ATTENTION.
SKIN	:	GENTLY BRUSH AWAY DRY PARTICLES, AND BLOT, WITH ABSORBENT MATERIAL, ANY EXCESS LIQUIDS THAT ARE PRESENT. RINSE THE PATIENT WITH WATER, REMOVE CONTAMINATED CLOTHING, AND WASH THE PATIENT WITH A SURFACTANT LIKE TINCTURE OF GREEN SOAP AND LARGE QUANTITIES OF WATER FOR AS LONG AS 15 MINUTES. IF THERE ARE ANY SIGNS OF SKIN SENSITIZATION, IRRITATION, OR CHEMICAL BURNS OBTAIN PROMPT MEDICAL ATTENTION.

SECTION V - FIRE/EXPLOSION HAZARD DATA

FLASH POINT: 294.8F AUTO IGNITION TEMP.: N/A REFRIGERATE: NO

EXTINGUISHING MEDIA: CO2,DRY,FOAM,FOG

PROCEDURES: EXCLUDE AIR; TREAT LIKE A GASOLINE OR OIL FIRE. WEAR FULL PROTECTIVE CLOTHING WITH SUPPLIED AIR SOURCE.

UNUSUAL HAZARDS: WHEN HEATED TO DECOMPOSITION IT MAY EMIT TOXIC FUMES.

FLAMMABLE LIMITS IN AIR:

SUBSTANCE(S)	%LEL	%UEL
PARA-NONYLPHENOL	N/A	N/A

SECTION VI-ACCIDENTAL RELEASE PROCEDURES

FOLLOW FACILITY/COMPANY'S EMERGENCY PLANS.

STOP SOURCE OF SPILL AND REMOVE ALL IGNITION SOURCES.

VENTILATE AREA OF SPILL.

CONTAIN THE SPILL AND PREVENT THE MATERIAL FROM OBTAINING ACCESS TO ANY CONFINED SPACES, PUBLIC SEWERS, OR WATERWAYS.

COLLECT THE MATERIAL USING ABSORBENTS, NON-SPARKING TOOLS, EXPLOSION PROOF VACUUMS, OR OTHER EQUIPMENT REQUIRED BY THE SIZE OF THE SPILL.

DECONTAMINATE THE AREA, COLLECTING ANY CLEANING AND RINSING MEDIA FOR PROPER RECLAMATION OR DISPOSAL.

DETERMINE APPROPRIATE COURSE OF ACTION FOR THE COLLECTED MATERIAL.

CONTACT THE APPROPRIATE AUTHORITIES AND DISPOSE ACCORDING TO GOVERNMENTAL REGULATIONS.

SECTION VII - HANDLING AND STORAGE

PROTECT CONTAINER FROM PHYSICAL ABUSE.

KEEP CONTAINER TIGHTLY CLOSED.

STORE IN A COOL, DRY, WELL-VENTILATED AREA AWAY FROM IGNITION SOURCES.

KEEP SEPARATE FROM INCOMPATIBLES.

SINCE EMPTIED CONTAINERS MAY RETAIN MATERIAL RESIDUE, FOLLOW LABEL WARNINGS EVEN AFTER CONTAINER IS EMPTY. DO NOT CUT, PUNCTURE, OR WELD ON OR NEAR THIS CONTAINER.

SECTION VIII - PERSONAL PROTECTION

EYE	:	TYPE TO BE DETERMINED BY A QUALIFIED PERSON. WHEN SPLASH HAZARDS ARE PRESENT, CHEMICAL GOGGLES ARE RECOMMENDED. FOR POTENTIALLY SEVERE EXPOSURES, THE ADDITION OF A FACE SHIELD IS RECOMMENDED.
GLOVES	:	SELECT THOSE IMPERVIOUS TO THE CITED SOLVENTS OR OTHER HAZARDOUS SUBSTANCES.
HYGIENIC	:	WEAR APPROPRIATE CLEAN, PROTECTIVE CLOTHING AND KEEP CONTACT (BODY) AREAS CLEAN.
VENTILATION	:	MAINTAIN VAPOR LEVELS BELOW CITED TLV OR EXPLOSION LIMITS

SECTION VIII - PERSONAL PROTECTION (CONTINUED)

FOR MENTIONED HAZARDOUS MATERIALS.

OTHER : RESPIRATION EQUIPMENT NEEDED IF CITED TLV LIMITS ARE EXCEEDED.

SECTION IX - PHYSICAL DATA

FORM (@25'C) : THIS MATERIAL IS A CLEAR COLORLESS TO YELLOW LIQUID.

BOILING POINT	: 285 C	MELTING POINT:	N.D.	ODOR THRESHOLD (PPM)	: NOT AVAILABLE
SPECIFIC GRAVITY	: .950	LBS./GAL. :	7.9	% WT. SOLIDS	: NOT AVAILABLE
PH	: NOT APPLICABLE	WATER SOL. :	NO	COEF. WATER/OIL DIST (G/ML)	: NOT AVAILABLE
EVAPORATION RATE	: < ETHER	VAPOR DENSITY:	> AIR	VOLATILE ORGANIC COMPOUND (LBS./GAL.)	: NOT AVAILABLE

SECTION X - REACTIVITY DATA

GENERAL STABILITY @25'C : STABLE
HAZARDOUS POLYMERIZATION : WILL NOT OCCUR
HAZARDOUS DECOMPOSITION PRODUCTS : ON THERMAL DECOMPOSITION IT MAY EMIT TOXIC FUMES, INCLUDING CO AND/OR CO2.
CONDITIONS TO AVOID : AVOID ANY HEAT, SPARKS OR STATIC ELECTRICITY.
CONDITIONS WHICH MAY CAUSE INSTABILITY: AVOID STRONG OXIDANTS.

SECTION XI - HEALTH HAZARD DATA

A REVIEW OF AVAILABLE DATA INDICATES ANY PREEXISTING ABNORMAL CONDITIONS WITH THE LISTED TARGET ORGANS MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.

ORGANS AFFECTED: SKIN, EYE, NOSE, THROAT, LUNGS, LIVER, RESPIRATORY SYSTEM

ROUTE OF ENTRY : CONTACT, INGESTION, INHALATION

THE HAZARDS PRESENTED ARE THOSE FOR THE HAZARDOUS SUBSTANCES PRESENTED IN SECTION II (A) UNLESS OTHERWISE NOTED.

PARA-NONYLPHENOL

EXPOSURE VALUES:

	PPM:	MG/M3:		PPM:	MG/M3:		PPM:	MG/M3:		PPM:	MG/M3:
OSHA PEL	N/A	N/A	ACGIH TLV	N/A	N/A	NIOSH TWA	N/A	N/A	VENDOR TWA	N/A	N/A
OSHA STEL	N/A	N/A	ACGIH STEL	N/A	N/A	NIOSH STEL	N/A	N/A	VENDOR STEL	N/A	N/A
OSHA CEILING	N/A	N/A	ACGIH CEILING	N/A	N/A	NIOSH CEILING	N/A	N/A	VENDOR CEILING	N/A	N/A
IDLH	N/A	N/A									

NOT APPLICABLE

SECTION XII (A) - ECOLOGICAL INFORMATION

NOT AVAILABLE

EPAHO107000254

SECTION XII (B) - INCOMPATIBILITY INFORMATION

NOT AVAILABLE

SECTION XII (C) - SYNERGISTIC EFFECTS

NOT AVAILABLE

SECTION XIII - DISPOSAL CONDITIONS

THIS MATERIAL WILL NOT BE A RCRA HAZARDOUS WASTE IF DISPOSED AS RECEIVED. HOWEVER, SUBSEQUENT USE OF THIS MATERIAL MAY REQUIRE A REASSESSMENT OF ANY WASTES GENERATED TO DETERMINE THEIR LEGAL STATUS.

RQ VALUES OF SUBSTANCES LISTED IN SECTION II (A) AND (B), AS 100%:

SUBSTANCE(S)	DOT RQ	EPA RQ
PARA-NONYLPHENOL	N/A	N/A

THE CALCULATED DOT RQ OF THIS MATERIAL, AS SHIPPED, IS: NOT APPLICABLE

SECTION XIV - TRANSPORT INFORMATION

THE US DOT REQUIRES THE FOLLOWING INFORMATION WHEN THIS MATERIAL IS SO TRANSPORTED PER TITLE 49 OF THE CFR.

	UN/NA NUMBER	: UN 3145
	DOT HAZARD CLASS	: 8,
NON-BULK	DOT PRIMARY LABEL	: CORROSIVE LABEL/PLACARD PRIMARY RISK NUMBER 8
	DOT PRIMARY PLACARD	: CORROSIVE LABEL/PLACARD PRIMARY RISK NUMBER 8
	DOT PROPER SHIPPING NAME	: ALKYLPHENOLS, LIQUID, N.O.S., PG III, NMFC ITEM 60000 FGT. CL. 70
	UN/NA NUMBER	:
PRIMARY LABEL	DOT HAZARD CLASS	:
BULK	DOT PRIMARY LABEL	: CORROSIVE LABEL/PLACARD PRIMARY RISK NUMB
CONTAINERS	DOT PRIMARY PLACARD	: CORROSIVE PLACARD WITH ID NUMBER PRINTED ON IT CLASS NUMBER 8
	DOT PROPER SHIPPING NAME	:

INTERNATIONAL REGULATIONS REQUIRE THE FOLLOWING INFORMATION WHEN THIS MATERIAL IS TRANSPORTED BY WATER.

	UN/NA NUMBER	: UN 3145
	HAZARD CLASS	: CLASS 8,
NON-BULK	PRIMARY LABEL	: CORROSIVE LABEL/PLACARD PRIMARY RISK NUMBER 8
	PROPER SHIPPING NAME	: ALKYLPHENOLS, LIQUID, N.O.S., P.G. III, MARINE POLLUTANT (NONYLPHENOL), SHIPPED UNDER PROVISIONS

SECTION XV - REGULATORY INFORMATION

PRODUCT USE: N/A

1. SUPERFUND AMENDMENTS & REAUTHORIZATION ACT OF 1986

SECTION 302 -- EXTREMELY HAZARDOUS SUBSTANCES

SECTION XV - REGULATORY INFORMATION (CONTINUED)

THE FOLLOWING SUBSTANCES IN THIS MATERIAL MAY REQUIRE SOME NOTIFICATION TO APPROPRIATE AUTHORITIES IF THE TOTAL AMOUNT OF SUCH MATERIAL IN YOUR POSSESSION EVER EXCEEDS THE 'PLANNING VALUES'.

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

SECTION 304 - EMERGENCY NOTIFICATION

THE FOLLOWING SUBSTANCES IN THIS MATERIAL MAY REQUIRE SOME NOTIFICATION TO APPROPRIATE AUTHORITIES IF THE TOTAL AMOUNT OF SUCH MATERIAL RELEASED TO THE ENVIRONMENT EVER EXCEEDS A REGULATED THRESHOLD.

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

SECTIONS 311/312--MSDS & EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY FORM

THIS MATERIAL MAY BE APPLICABLE TO THESE REGULATIONS AND MAY REQUIRE APPROPRIATE GOVERNMENTAL REPORTS IF THE TOTAL AMOUNT OF THIS MATERIAL AND/OR ANY OF THE CONSTITUENTS LISTED IN YOUR POSSESSION EVER EXCEED THE REGULATORY THRESHOLD VALUES.

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

THE APPROPRIATE HAZARD CLASSES FOR THIS MATERIAL ARE:

HEALTH HAZARDS	PHYSICAL HAZARDS
ACUTE	

SECTION 313--TOXIC RELEASE

THE FOLLOWING SUBSTANCE(S) ARE 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. THESE SUBSTANCES MAY NOT BE REFLECTED IN THIS MSDS' SECTION II OR XI.

SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ

2. STATE'S RIGHT-TO-KNOW LAWS

SEVERAL STATES HAVE ENACTED STATUTES REQUIRING CERTAIN INFORMATION BE AVAILABLE ON MSDS AND/OR LABELS IN ADDITION TO THAT REQUIRED BY 29 CFR 1910.1200. THE FOLLOWING REFLECT SCHENECTADY INTERNATIONAL, INC. BEST AVAILABLE INFORMATION OF WHICH SUBSTANCES MAY BE PRESENT IN THIS MATERIAL AND, THEREFORE, APPLICABLE TO THE GIVEN STATE. CHEMICAL NAMES ARE TRUNCATED TO 125 CHARACTERS.

NONE APPLICABLE

3. INTERNATIONAL CONCERNS

THE FOLLOWING REPRESENT CERTAIN APPLICABLE INTERNATIONAL STATUTES/REGULATIONS.

NONE APPLICABLE

SECTION XVI - OTHER

OTHER: TEMPS. ABOVE 250 C MAY LEAD TO THERMAL DEALKYLATION YIELDING PHENOL & OLEFINS. THIS REACTION CAN BECOME RAPID AT TEMPS. ABOVE 300 C & LEAD TO DANGEROUS PRESSURE INCREASE. DURING REACTION/CURING PROCESS, TOXIC

SECTION XVI - OTHER (CONTINUED)

BYPRODUCTS SUCH AS PHENOL MAY BE EMITTED. EFFECT IS MOST PROMINENT UNDER ACID CONDITIONS. DON'T REROUTE VENTED GASES BACK INTO WORK AREA.

THE HEALTH AND SAFETY EFFECTS INFORMATION PRESENTED IS THAT AVAILABLE TO SCHENECTADY INTERNATIONAL, INC. (SII) AS OF THE DATE PUBLISHED. SII MAKES NO REPRESENTATION OF THE INFORMATION'S COMPLETENESS OR ACCURACY. SII EXPECTS THOSE PERSONS, RECEIVING THIS MSDS, WILL EXERCISE THEIR INDEPENDENT JUDGEMENT OR CONSULT WITH A COMPETENT HEALTH/SAFETY PROFESSIONAL IN DETERMINING THIS MATERIAL'S APPROPRIATENESS FOR A SPECIFIC USE AND TYPE OF PERSONAL PROTECTION EQUIPMENT DEEMED NECESSARY FOR THE GIVEN USE AND THE AVAILABLE ENGINEERING CONTROLS.

N/A = NOT AVAILABLE // N.A. = NOT APPLICABLE // N.D. = NOT DETERMINED DATE PRINTED 06/19/98

WEIGHT RANGES EXPRESSED AS PERCENTAGES UNLESS OTHERWISE INDICATED. RQ EXPRESSED IN POUNDS.

S-1635 R7 (12/92) MSDS ORIGINATION DATE: 07/20/89 LAST REVIEW DATE/BY: 04/01/98 MJG

EPAHO107000257

MATERIAL SAFETY DATA SHEET

ExxonMobil Chemical Company
A Division of Exxon Mobil Corporation

(b) (4)

[redacted]

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MATERIAL SAFETY DATA SHEET

ExxonMobil Chemical Company
A Division of Exxon Mobil Corporation

(b) (4)

[redacted]

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MATERIAL SAFETY DATA SHEET

ExxonMobil Chemical Company
A Division of Exxon Mobil Corporation

(b) (4)

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MATERIAL SAFETY DATA SHEET

ExxonMobil Chemical Company
A Division of Exxon Mobil Corporation

(b) (4)

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MATERIAL SAFETY DATA SHEET

ExxonMobil Chemical Company
A Division of Exxon Mobil Corporation

(b) (4)

[redacted]

Continues on page 6

Bayer

MATERIAL SAFETY DATA SHEET

BAYER CORPORATION
PRODUCT SAFETY & REGULATORY AFFAIRS
100 Bayer Road
Pittsburgh, PA 15205-9741

TRANSPORTATION EMERGENCY
CALL CHEMTREC: 800-424-9300
INTERNATIONAL: 703-527-3887

NON-TRANSPORTATION
BAYER EMERGENCY PHONE...: (412) 923-1800
BAYER INFORMATION PHONE.: (800) 662-2927

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Mondur M (Molten Bulk)
PRODUCT CODE.....: C0062000
CHEMICAL FAMILY.....: Aromatic Isocyanate
CHEMICAL NAME.....: 1,1'-Methylenebis(4-isocyanatobenzene)
SYNONYMS.....: Diphenylmethane Diisocyanate (MDI); Methylene Diphenylmethane Diisocyanate (MDI) Diphenylisocyanate
CAS NUMBER.....: 101-68-8
FORMULA.....: C15H10N2O2

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
***** HAZARDOUS INGREDIENTS *****		
4,4'-Diphenylmethane Diisocyanate (MDI) 101-68-8	OSHA : .02 ppm Ceiling .20 mg/m3 Ceiling ACGIH: .005 ppm TWA .051 mg/m3 TWA	Upper Bound 99%
2,4'-Diphenylmethane Diisocyanate (MDI) 5873-54-1	OSHA : Not Established ACGIH: Not Established	Upper Bound 2%

EPAHO107000263

3. HAZARDS IDENTIFICATION:

****
* EMERGENCY OVERVIEW *
*
* WARNING! Color: White to light yellow; Form: Liquid; *
* Molten Bulk; Odor: Slightly musty odor; May cause eye, *
* skin, and respiratory tract irritation; Harmful if inhaled; *
* May cause allergic respiratory reaction; May cause allergic *
* skin reaction; May cause lung damage; Use cold water spray *
* to cool fire-exposed containers to minimize the risk of *
* rupture; Toxic gases/fumes are given off during burning or *
* thermal decomposition; Closed container may explode under *
* extreme heat. *
****

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Skin Contact from liquid and aerosols (spray application). Inhalation. Although MDI is low in volatility, an inhalation hazard can exist from MDI aerosols or vapors formed during heating, foaming or spraying.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:
ACUTE INHALATION.....: MDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported. These symptoms can be delayed up to several hours after exposure.
CHRONIC INHALATION.....: As a result of previous repeated overexposures or a single large dose, certain individuals develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed (up to several hours after exposure). Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Overexposure to isocyanates has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.
ACUTE SKIN CONTACT.....: Isocyanates react with skin protein and

EPAHO107000264

3. HAZARDS IDENTIFICATION (Continued)

moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

CHRONIC SKIN CONTACT.....: Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and in some cases, skin sensitization. Individuals who have skin sensitization can develop these symptoms from contact with liquid or vapors. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. This data reinforces the need to prevent direct skin contact with MDI. (See Toxicological Information, SENSITIZATION.)

ACUTE EYE CONTACT.....: Liquid, aerosols or vapors are irritating and can cause tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible.

CHRONIC EYE CONTACT.....: None Found

ACUTE INGESTION.....: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

CHRONIC INGESTION.....: None Found

CARCINOGENICITY.....: Neither MDI nor polymeric MDI are listed by the NTP, IARC or regulated by OSHA as carcinogens.

- NTP.....: Not listed
- IARC.....: Not listed
- OSHA.....: Not regulated
- OTHER.....: See results of two year inhalation study in Toxicological Information, CARCINOGENICITY.

MEDICAL CONDITIONS

- AGGRAVATED BY EXPOSURE.....: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: Flush with copious amount of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Refer individual to physician or ophthalmologist for immediate follow-up.

FIRST AID FOR SKIN.....: Remove contaminated clothing. Wash affected skin thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists after the area is washed.

FIRST AID FOR INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult physician should this occur.

FIRST AID FOR INGESTION.: DO NOT INDUCE VOMITING. Give 1 to 2 cups of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

4. FIRST AID MEASURES (Continued)

Consult physician.

NOTE TO PHYSICIAN.....: Eyes. Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. Skin. This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. If burned, treat as thermal burn. Ingestion. Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. Respiratory. This compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

5. FIRE FIGHTING MEASURES:

FLASH POINT.....: 395.0 F (201.6 C) Pensky-Martens Closed Cup (ASTM D-93)

EXTINGUISHING MEDIA.....: Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, MDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. (See Stability and Reactivity). At temperatures greater than 400 F (204 C), polymeric MDI can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. (See Employee Protection Recommendations). Major Spill: Call Bayer Corporation at 412/923-1800. If transportation spill, call CHEMTREC 800/424-9300. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be placed over the spill. Large quantities may be pumped into closed, but not sealed, container for disposal. Minor Spill: Absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%), or; water (90%), concentrated ammonia (3-8%) and detergent (2%). Add about 10 parts of neutralizer per part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let CO2 escape. Clean-up: Decontaminate floor with decontamination

EPAHO107000266

6. ACCIDENTAL RELEASE MEASURES (Continued)

solution letting stand for at least 15 minutes.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE(MIN/MAX): 107 F (42 C) minimum/111 F (44 C) maximum
SHELF LIFE.....: Recommended for molten material - 3 weeks.
SPECIAL SENSITIVITY.....: If container is exposed to high heat, 400 F (204 C) it can be pressurized and possibly rupture. MDI reacts slowly with water to form CO2 gas. This gas can cause sealed containers to expand and possibly rupture.
HANDLING/STORAGE PRECAUTIONS: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Avoid contact with skin and eyes. Do not breathe aerosols or vapors. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Exposure to vapors of heated MDI can be extremely dangerous. Employee education and training in the safe use and handling of this compound are required under the OSHA Hazard Communication Standard.

8. PERSONAL PROTECTION:

EYE PROTECTION REQUIREMENTS.....: Liquid chemical goggles. Vapor resistant goggles should be worn when contact lenses are in use. In a splash hazard environment chemical goggles should be used in combination with a full face-shield.
SKIN PROTECTION REQUIREMENTS.....: Permeation resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered by the cream to a minimum.
VENTILATION REQUIREMENTS.....: Local exhaust should be used to maintain levels below the TLV whenever MDI is processed, heated or spray applied. Standard reference sources regarding industrial ventilation (ie., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation.
RESPIRATOR REQUIREMENTS.....: Concentrations greater than the TLV can occur when MDI is sprayed, heated or used in a poorly ventilated area. In such cases, or whenever concentrations or MDI exceed the TLV or are not known, respiratory protection must be worn. A supplied air respirator (either positive pressure or continuous flow type) is required. In an emergency situation, a self-contained breathing apparatus may be used. MDI has poor warning properties, since the concentration at which MDI can be

8. PERSONAL PROTECTION (Continued)

smelled is substantially higher th an the maximum exposure limit. Observe OSHA regulations for respirator use (29 CFR 1910.134).

MONITORING.....: Isocyanate exposure levels must be monitored. Monitoring of airborne isocyanates in the breathing zone of individuals should become part of the overall employee exposure characterization program. Monitoring techniques have been developed by NIOSH, and OSHA. Upon request, Bayer Corporation can make available methods which are modifications of these NIOSH and OSHA methods.

MEDICAL SURVEILLANCE.....: Medical supervision of all employees who handle or come in contact with isocyanates is recommended. These should include preemployment and periodic medical examinations with pulmonary function tests (FEV, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

ADDITIONAL PROTECTIVE MEASURES.....: Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions. For additional information, contact Bayer Product Safety and Regulatory Affairs Department for Polymers.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM	Liquid
APPEARANCE	Molten Bulk
COLOR	White to light yellow
ODOR	Slightly musty odor
ODOR THRESHOLD	Not Established
MOLECULAR WEIGHT	250
pH	Not Established
BOILING POINT	381 F (194 C) to 390 F (199 C) @ 5 mmHg
MELTING/FREEZING POINT	102 F (39 C)
SOLUBILITY IN WATER	Not soluble. Reacts slowly with water to liberate CO2 gas.
SPECIFIC GRAVITY	1.19 @ 77 F (25 C)
BULK DENSITY	9.93 lbs/gal
% VOLATILE BY VOLUME	Negligible
VAPOR PRESSURE	Less than 10-5 mmHg at 77 F (25 C) for MDI
VAPOR DENSITY	8.5 (MDI) (Air = 1)

10. STABILITY AND REACTIVITY:

STABILITY.....: This is a stable material.

HAZARDOUS POLYMERIZATION...: May occur; Contact with moisture, other materials which react with isocyanates, or temperatures above 400 F (204 C), may

EPAHO107000268

10. STABILITY AND REACTIVITY (Continued)

cause polymerization.
INCOMPATIBILITIES.....: Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum.
INSTABILITY CONDITIONS.....: Contamination with water.
DECOMPOSITION PRODUCTS.....: By high heat and fire: carbon monoxide, oxides of nitrogen, traces of HCN, MDI vapors or aerosols.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: Diphenylmethane Diisocyanate (Monomeric and Polymeric)
ACUTE TOXICITY
ORAL LD50.....: Greater than 10,000 mg/kg (Rat)
DERMAL LD50.....: Greater 6,200 mg/kg (Rabbit)
INHALATION LC50....: The 4-hour LC50 for polymeric MDI in rats ranges from 370 to 490 mg/m3. The 4-hour LC50 for monomeric MDI in rats was estimated to be between 172 and 187 mg/m3.
EYE EFFECTS.....: Slight to moderate irritation (Rabbit).
SKIN EFFECTS.....: Slight to moderate irritation (Rabbit).
SENSITIZATION.....: MDI has been shown to produce dermal sensitization in laboratory animals. Evidence of respiratory sensitization has also been observed in guinea pigs. In addition, there is some evidence suggestive of cross-sensitization between different types of diisocyanates.
CHRONIC TOXICITY.....: In a combined chronic inhalation toxicity/oncogenicity study, rats were exposed to an aerosol of polymeric MDI for 6 hours per day, 5 days per week for one or two years. The exposure concentrations were 0, 0.2, 1.0 and 6.0 mg/m3. Microscopic examination of tissues revealed the effects of irritation to the nasal cavity and lungs in animals exposed to 1.0 and 6.0 mg/m3. The No Observable Effect Level (NOEL) was 0.2 mg/m3.
CARCINOGENICITY.....: In the study described above (See CHRONIC TOXICITY), the occurrence of pulmonary adenomas and a single pulmonary adenocarcinoma was considered to be related to MDI. These tumors were observed only in rats exposed to the high concentration of 6.0 mg/m3.
MUTAGENICITY.....: Positive (Salmonella microsome test with metabolic activation; cell transformation assay) as well as negative (mouse lymphoma specific locus mutation test with or without metabolic activation) results have been observed "in vitro". The use of certain solvents which rapidly hydrolyze MDI is suspected of producting mutagenicity in some of these studies. MDI was negative in an "in vivo" (mouse micronucleus) assay.
DEVELOPMENTAL TOXICITY: Rats were exposed to polymeric MDI at air concentrations of 0, 1, 4 and 12 mg/m3 during days 6 - 15 of gestation. Maternal Toxicity (including mortality) was observed at the highest concentration of 12 mg/m3 accompanied by embryo and fetal toxicity. However, no teratogenic effects were observed even at this lethal concentration.

EPAHO107000269

12. ECOLOGICAL INFORMATION:

ECOLOGY DATA FOR: Diphenylmethane Diisocyanate (Monomeric and Polymeric)
AQUATIC TOXICITY.....: LC50 - 24 hr. (static): Greater than 500 mg/liter for Daphnia magna, Limnea Stagnalis, and Zebra fish (Brachydanio rerio) for both polymeric and monomeric MDI.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: Waste must be disposed of in accordance with federal, state, and local environmental control regulations. Incineration is the preferred method.
EMPTY CONTAINER PRECAUTIONS.: Empty containers must be handled with care due to product residue. Decontaminate containers prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH. (See Fire Fighting Measures and Stability & Reactivity). Gases may be highly toxic.
TRANSPORTATION EMERGENCIES..: Bayer requires that CHEMTREC be immediately notified (800-424-9300) when this product is unintentionally released from its container during its course of distribution, regardless of the amount released. Distribution includes transportation, storage incidental to transportation, loading and unloading. Such notification must be immediate and made by the person having knowledge of the release.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: Methylene diphenyl diisocyanate
FREIGHT CLASS BULK.....: Methylene diphenyl diisocyanate
FREIGHT CLASS PACKAGE.....: Chemicals, NOI (Isocyanate), NMFC 60000
PRODUCT LABEL.....: Product Label Established

DOT (DOMESTIC SURFACE)

PROPER SHIPPING NAME.....: Other Regulated Substances, Liquid, N.O.S.
* SEE NOTE BELOW
HAZARD CLASS OR DIVISION .....: 9
UN/NA NUMBER.....: NA3082
PACKING GROUP .....: III
HAZARDOUS SUBSTANCE.....: MDI, (Methylene diphenyl diisocyanate)
DOT PRODUCT RQ lbs (kgs).....: 5050 lbs (2290.7 kgs)
HAZARD LABEL(s).....: Class 9
HAZARD PLACARD(s).....: Class 9

EPAHO107000270

14. TRANSPORTATION INFORMATION (Continued)

DOT (continued)

* WHEN IN INDIVIDUAL CONTAINERS OF LESS THAN THE PRODUCT RQ, THIS MATERIAL SHIPS AS NON-REGULATED.

IMO / IMDG CODE (OCEAN)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

ICAO / IATA (AIR)

HAZARD CLASS DIVISION NUMBER...: Non-Regulated

15. REGULATORY INFORMATION:

OSHA STATUS.....:	This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
TSCA STATUS.....:	On TSCA Inventory
CERCLA REPORTABLE QUANTITY..:	5000 lbs for 4,4'-Diphenylmethane Diisocyanate, CAS# 101-68-8.
SARA TITLE III:	
SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES..:	None
SECTION 311/312 HAZARD CATEGORIES.....:	Immediate Health Hazard; Delayed Health Hazard
SECTION 313 TOXIC CHEMICALS.....:	4,4'-Diphenylmethane Diisocyanate, CAS# 101-68-8; Upper Bound 99%
RCRA STATUS.....:	MDI is not listed as a hazardous waste. To the best of our knowledge, MDI does not meet the criteria of a hazardous waste if discarded in its purchased form. However, under RCRA, it is the responsibility of the user of products to determine, at the time of disposal, whether a product meets any of the criteria for a hazardous waste. This is because product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics under the new Toxicity Characteristics Leaching Procedure (TCLP) 40 Code of Federal Regulations 261.20-24.

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

15. REGULATORY INFORMATION (Continued)

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
4,4'-Diphenylmethane Diisocyanate (MDI) 101-68-8	Upper Bound 99%	PA1, FL, IL, MA, RI, NJ1, NJ4, CN2
2,4'-Diphenylmethane Diisocyanate (MDI) 5873-54-1	Upper Bound 2%	NJ4

FL = Florida Substance List
IL = Illinois Toxic Substances List
MA = Massachusetts Hazardous Substance List
NJ1 = New Jersey Hazardous Substance List
NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
PA1 = Pennsylvania Hazardous Substance List
RI = Rhode Island List of Designated Substances
CN2 = Canada WHMIS Ingredient Disclosure List over 0.1%.

CALIFORNIA PROPOSITION 65
To the best of our knowledge, this product contains no levels of listed substances, which the state of California has found to cause cancer, birth defects or other reproductive effects.

16. OTHER INFORMATION:

NFPA 704M RATINGS:	Health	Flammability	Reactivity	Other
	3	1	1	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS RATINGS:	Health	Flammability	Reactivity
	3*	1	1

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
*=Chronic Health Hazard

Bayer's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Bayer as a customer service.

REASON FOR ISSUE.....: Revising Animal Toxicity Data and Regulatory Information.
PREPARED BY.....: Rebecca L. Cernick
APPROVED BY.....: J. H. Chapman
APPROVAL DATE.....: 08/03/1999
SUPERSEDES DATE.....: 08/13/1997
MSDS NUMBER.....: 01831

Continued on next page

EPAHO107000272

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Product Code: C0062000
Approval date: 08/03/1999

EPAHO107000273

NOVUS

MATERIAL SAFETY DATA SHEET

MSDS No. 12121.003
Date: March 31, 1995

NOVUS INTERNATIONAL, INC.
530 MARYVILLE CENTRE DRIVE
ST. LOUIS, MO 63141-5862

Telephone: 1-314-576-8886
For Emergencies: 1-800-568-0088

ALIMET® METHIONINE HYDROXY ANALOGUE

SECTION I. PRODUCT IDENTIFICATION

Synonyms:	2-hydroxy-4-(methylthio) butanoic acid, methionine hydroxy analogue
Chemical Formula:	$CH_3S(CH_2)_2CHOHCOOH$
CAS Reg. No.:	583-91-5
Product Use:	Liquid Animal Feed Supplement

SECTION II. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredients: % by weight

Methionine Hydroxy Analogue	~89%
Water	~11%

Exposure Limits (8 hour TWA)	OSHA PEL	ACGIH TLV
Methionine Hydroxy Analogue	None established	None established

SECTION III. HAZARDS IDENTIFICATION

Emergency Overview

Light brown to brown liquid with characteristic sulfur odor

DANGER! CAUSES EYE BURNS CAUSES SKIN IRRITATION

Potential Health Effects

Eye contact: Corrosive. Contact causes severe eye burns.

Skin contact: Prolonged or repeated skin contact causes irritation.

Inhalation: Vapors have strong offensive odor which may cause nausea, especially when exposures occur in situations without adequate ventilation or breathing protection.

Ingestion: Slightly toxic. Irritating to mouth, throat and stomach.

EPAHO107000274

NOVUS **MATERIAL SAFETY DATA SHEET**

SECTION IV. FIRST AID PROCEDURES

IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

IF ON SKIN: Immediately flush skin with plenty of water. Remove contaminated clothing. Get medical attention. Wash clothing before reuse.

IF INHALED: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.

IF SWALLOWED: Do NOT induce vomiting. Give victim a glass of water or milk. Get immediate medical attention. Careful evacuation of stomach by medical personnel imperative.

SECTION V. FIRE FIGHTING MEASURES

Flammable Properties: Methionine hydroxy analogue contains approximately 11% water and presents no fire hazard until the water is driven off and only a mild or non-violent fire hazard potential after water content has evaporated. Product meets NFPA-30 Code (1990 Edition), Section 1-2, definition of Class IIIB combustible liquid after water content driven off. Combustion generates toxic fumes of sulfur oxides and carbon monoxide.

Flash Point: No flash point observed using **Pensky-Martens Closed Cup Method** up to boil-over temperature of ~116°C (240°F). Simultaneous flash/fire point observed using **Cleveland Open Cup Method** at ~202°C (395°F). Boiling first observed at ~121°C (250°F) and continued until moisture driven off before temperature rise to fire point.

Extinguishing Media: Water spray, foam, dry chemical, CO_2 or Class B extinguishing agent. Dike and collect water used to fight fire as runoff may cause environmental damage.

Firefighting Instructions: As in any fire, wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear. Equipment should be thoroughly decontaminated after use.

SECTION VI. ACCIDENTAL RELEASE MEASURES

Observe all protection and safety precautions when cleaning up spills. Refer to Section III, Hazards Identification and Section VIII, Exposure Controls/Personal Protection.

Avoid contamination of any material not spilled from original product containers. Use only hoses and equipment known to be clean and suitable for food-grade product service in handling any product for potential salvage.

EPAHO107000275

NOVUS **MATERIAL SAFETY DATA SHEET**

SECTION VI. ACCIDENTAL RELEASE MEASURES (continued)

Small spill: Keep people away. Absorb spills on floor or other impervious surfaces with lime, clays or other non-biodegradable materials. Collect contaminated sorbent and place in a plastic-lined drum. After removing all possible material, wash contaminated surface with industrial detergent solution and rinse with water. Deodorize cleaned surface with weak (5%) sodium hypochlorite solution. DO NOT mix sodium hypochlorite solutions with undiluted methionine hydroxy analogue.

Large spill: Keep people away. Contain where possible to prevent runoff from entering storm sewers and ditches which lead to waterways. Pick up by suction or vacuum truck using clean, suitable equipment.

Neutralize spills on ground with lime if possible. Dig up all contaminated soil and product and isolate from uncontaminated materials in a plastic lined drum or other suitable container.

Water spill: Keep people away. Methionine hydroxy analogue readily mixes with water. If containment and clean up is not possible, natural dilution will reduce acidity. Do not intentionally dilute.

SECTION VII. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin or clothing. Avoid breathing vapor or mist. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Emptied container retains vapor and product residue. Follow all MSDS and label precautions until container is cleaned, reconditioned or destroyed as container may retain product residues.

Storage: Store under sanitary conditions with other feed ingredients. Do not store near combustible materials. Keep container closed when not in use. Keep from freezing.

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Wear chemical safety goggles. Facilities storing or using product should be equipped with an immediately available eye wash facility and safety shower.

Skin Protection: Wear appropriate protective clothing and chemical-resistant gloves to prevent skin contact. Where splashing is likely, wear chemical resistant gloves, a chemical suit, rubber boots and a face shield. Clean equipment after handling product. Wash thoroughly after handling product.

EPAHO107000276

NOVUS

MATERIAL SAFETY DATA SHEET

SECTION VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Respiratory Protection: Methionine hydroxy analogue does not have established airborne exposure limits. Use MSHA/NIOSH-approved full face respiratory protection equipment when airborne exposure causes discomfort. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by MSHA/NIOSH or the manufacturer. Respiratory protection programs must be in compliance with 29 CFR 1910.134. For confined space entry, comply with 29 CFR 1910.146.

Ventilation: Good general ventilation should be sufficient to control airborne levels. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

SECTION IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown to brown liquid
Specific Gravity @ 25°C:	1.21 - 1.23
Vapor Pressure:	Typically, 51 to 58% of the vapor pressure of water at same temperature.
Solubility in Water:	Completely soluble
Viscosity @ 20°C:	105 cs
@ 0°C:	500 cs
pH:	<1
Freezing Point:	Product should be protected from exposure to temperatures below 0°C (32°F).

NOTE: These physical data are typical values based on material tested, but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

SECTION X. STABILITY AND REACTIVITY

Stability: Stable under expected and reasonable conditions of storage and use.

Incompatibilities: Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Product decomposition with gas evolution can occur on exposure to temperatures exceeding 160°C. No uniquely hazardous decomposition products are expected. If the product is burned, as with any sulfur-containing organic material, sulfur dioxide, carbon dioxide, and carbon monoxide can be produced.

Hazardous Polymerization: Does not occur.

EPAHO107000277

NOVUS

MATERIAL SAFETY DATA SHEET

SECTION XI. TOXICOLOGICAL INFORMATION

Single exposure (acute) studies indicate:
Oral - Slightly Toxic (Rat LD_{50} - 3,170 mg/kg)
Dermal - No More Than Slightly Toxic (Rabbit LD_{50} - >2,000 mg/kg)
Eye Irritation - Corrosive (Rabbit)
Skin Irritation - Slightly Irritating (Rabbit, 4-hr exposure)
Skin Irritation - Moderately Irritating (Rabbit, 24-hr exposure, 4.1/8.0)

No skin allergy was observed in a panel of 218 humans following repeated exposures to product in controlled skin contact studies (primary and cumulative responses). Product has produced no genetic changes in standard tests using bacterial cells.

SECTION XII. ECOLOGICAL INFORMATION

Assessment: Slightly toxic for Selenastrum and Scenedesmus (algae)
Practically nontoxic for water flea and fish
Biodegradable

Test Results: 96 hr LC_{50} Fish (Brachydania rerio): 386 mg/l
72 hr EC_{50} Algae (Scenedesmus subspicatus): 82 mg/l
72 hr EC_{50} Algae (Selenastrum capricornutum): 87 mg/l
48 hr LC_{50} Water flea (Daphnia magna): 222 mg/l

Biodegradation (% after 28 days): 50 mg/l: 88%
100 mg/l: 91%

Activated sludge respiration inhibition test: 3 hr $EC_{50} \geq 1$ g/l

SECTION XIII. DISPOSAL CONSIDERATIONS

Dispose of all contaminated product, soil, debris, sorbents and other spill clean-up materials in accordance with applicable Federal, state or local procedures.

Contaminated materials, including contaminated or unwanted product, may be classified as hazardous under the Federal Resource and Conservation Act (RCRA) and related state laws. Disposal of these materials may be subject to the RCRA Land Disposal Restriction requirements including the Universal Treatment Standards.

EPAHO107000278

NOVUS **MATERIAL SAFETY DATA SHEET**

SECTION XIV. TRANSPORT INFORMATION

Transportation and Hazardous Materials Description:

DOT Proper Shipping Name:	Not Applicable
DOT Hazard Class/I.D. Number:	Not Applicable
DOT Label:	Not Applicable
Hazardous Substance(s)/RQ(s):	Not Applicable
U.S. Surface Freight Classification:	Methionine Hydroxy Analogue (Feed Supplement)

SECTION XV. REGULATORY INFORMATION

SARA Hazard Notification: Physical & Health Hazard Categories, 40 CFR Part 370:

- ✓ Immediate (acute): Effects occur rapidly and are of short duration.
- __ Delayed (chronic)
- __ Fire hazard
- __ Reactive hazard
- __ Sudden Release of Pressure

Section 313 Toxic Chemical(s): Not Applicable

OSHA Hazard Communication Standard: Hazardous under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200).

US Food and Drug Approval: Generally recognized as safe (GRAS) when used in animal feeds in accordance with good manufacturing or feeding practice. (21 CFR 582.5477).

NFPA Hazard Identification Label: **Health-1** (slight hazard); **Fire Hazard-1** (flash point >200° F); **Reactivity-0** (stable); **Specific Hazard-None**

SECTION XVI. OTHER INFORMATION

Label Text: DANGER! CAUSES EYE BURNS CAUSES SKIN IRRITATION

Do not get in eyes, on skin or on clothing
Avoid breathing vapor or mist
Keep container closed
Use with adequate ventilation
Wash thoroughly after handling

FIRST AID: IF IN EYES, immediately flush with plenty of water for at least 15 minutes. Get medical attention.

EPAHO107000279

NOVUS

MATERIAL SAFETY DATA SHEET

SECTION XVI. OTHER INFORMATION (continued)

Label Text: IF ON SKIN, immediately flush with plenty of water. Remove contaminated clothing. Get medical attention. Wash clothing before reuse.

In case of:
SPILL OR LEAK, keep people away. Contain large spills with dry earth or sand and remove by vacuum truck for disposal. Small spills can be neutralized with lime and placed in plastic-lined drums for disposal. Dig up contaminated ground and place it and any spill clean up materials in plastic-lined drums for disposal. All spills should be prevented from entering waterways. Disposal should be in accordance with Federal, state or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed.

Reason For Issue: Revise accidental release measures (Section VI); Revise ecological information (Section XII), Revise disposal considerations (Section XIII); Add Food and Drug approval (Section XV); Add Fax number (Section XVI).

Prepared By: J.E. Drake
Title: Government Affairs Manager
Approval Date: 03/95
MSDS Number: 12121.003

Supersedes: 11/93

FOR ADDITIONAL NON-EMERGENCY INFORMATION, CONTACT:
GOVERNMENT AFFAIRS
NOVUS INTERNATIONAL, INC.
TELEPHONE: 314-576-8421
FAX: 314-576-2148

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EPAHO107000280

MATERIAL SAFETY DATA SHEET FOR: DI-SEC-BUTYLPHENOL (DSBP)

SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

		HAZARD RATINGS :	HMIS NFPA
SUPPLIER'S NAME	: SCHENECTADY INTERNATIONAL, INC.		H 3 3
STREET ADDRESS	: P.O. BOX 1046		F 1 1
CITY, STATE, ZIP CODE	: SCHENECTADY, NEW YORK 12301		R 0 0
EMERGENCY TELEPHONE NO.	: (518) 370-4200		PP C
		DOT RESPONSE GUIDE NUMBER:	60
TRADE NAME	: DI-SEC-BUTYLPHENOL (DSBP)	FIRE FIGHTERS GUIDE NO :	A-132
CHEMICAL NAME/CLASS	: DI-SEC-BUTYLPHENOL (CAS # 31291-60-8)		
CAS NUMBER	: 31291-60-8		
NIOSH NO	: N/A		
TSCA	: THIS PRODUCT OR IT'S CONSTITUENTS ARE LISTED ON TSCA INVENTORY.		
TRADE SECRET	: THIS MATERIAL IS NOT CONSIDERED TO REPRESENT CONFIDENTIAL BUSINESS INFORMATION TO SII.		
LAST REVIEW DATE/BY	: 12/23/92 DGK		

SECTION II (A) - HAZARDOUS SUBSTANCES (29 CFR 1910.1200)

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
DI-SEC-BUTYLPHENOL	31291-60-8	NO	90.0000-99.0000	N/A	N/A
PARA-S-BUTYLPHENOL	99-71-8	NO	1.0000-10.0000	1@71	N/A

SECTION II (B) - MATERIALS CAPABLE OF RELEASE DURING PROCESSING

THE FOLLOWING SUBSTANCES MAY BE CAPABLE OF BEING RELEASED DURING STORAGE, HANDLING, AND/OR PROCESSING AND MAY NOT BE REFLECTED IN THIS MSDS' SECTION II (A). SCHENECTADY INTERNATIONAL, INC. DOES NOT CONSIDER THEM TO REPRESENT A PHYSICAL OR HEALTH HAZARD DURING NORMAL OPERATIONS. HOWEVER, THE USER OF THIS MATERIAL HAS THE RESPONSIBILITY TO PROVIDE A SAFE WORK PLACE AND, THUS, THEY MUST REVIEW THEIR OPERATIONS AND DEVELOP APPROPRIATE WORK PRACTICE GUIDELINES AND EMPLOYEE PROTECTION AND INSTRUCTIONAL PROGRAMS.

SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

CONDITIONS TO AVOID:
DURING A CURING/REACTION PROCESS, TOXIC BYPRODUCTS MAY BE EMITTED. DO NOT REROUTE VENTED GASES BACK INTO WORK AREA.

SECTION II (C) - NON-HAZARDOUS SUBSTANCES (29 CFR 1910.1200)

THE FOLLOWING SUBSTANCES ARE PRESENT IN THIS MATERIAL BUT ARE NOT CONSIDERED BY SCHENECTADY INTERNATIONAL, INC. TO PRESENT PHYSICAL OR HEALTH HAZARDS PER 29 CFR 1910.1200.

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

SECTION III (A) - HAZARDS IDENTIFICATION FOR MATERIALS IN SECTION II (A)

DI-SEC-BUTYLPHENOL
ANSI SIGNAL WORD FOR THIS MATERIAL IS: DANGER

RISKS:
HEALTH DANGERS : CAUSES EYE BURNS. CAUSES SKIN BURNS.
HEALTH WARNINGS : MAY CAUSE RESPIRATORY TRACT IRRITATION. LUNG IRRITANT.

SECTION III (A) - HAZARDS IDENTIFICATION FOR MATERIALS IN SECTION II (A) (CONTINUED)

TO WORK SAFELY WITH THIS MATERIAL:
DO NOT GET IN EYES, ON SKIN OR CLOTHING. AVOID BREATHING MATERIALS' VAPOR, DUST OR FUMES. KEEP CONTAINER CLOSED.
USE WITH ADEQUETE VENTILATION.

PARA-S-BUTYLPHENOL
ANSI SIGNAL WORD FOR THIS MATERIAL IS: DANGER

RISKS:
HEALTH DANGERS : CAUSES EYE BURNS. CAUSES SKIN BURNS.
HEALTH WARNINGS : MAY CAUSE RESPIRATORY TRACT IRRITATION. LUNG IRRITANT.
HEALTH CAUTIONS : MAY AFFECT MUCOUS MEMBRANES.

TO WORK SAFELY WITH THIS MATERIAL:
DO NOT GET IN EYES, ON SKIN OR CLOTHING. AVOID BREATHING MATERIALS' VAPOR, DUST OR FUMES. KEEP CONTAINER CLOSED.
USE WITH ADEQUETE VENTILATION.

SECTION III (B) - HAZARDS IDENTIFICATION FOR MATERIALS IN SECTION II (B)

NOT APPLICABLE

SECTION III (C) - HAZARDS IDENTIFICATION FOR MATERIALS IN SECTION II (C)

NOT APPLICABLE

SECTION IV - EMERGENCY FIRST AID PROCEDURES

RESCUE

IF A PERSON IS INVOLVED IN A HAZARDOUS EXPOSURE SITUATION, MOVE THE AFFECTED PERSON FROM THE AREA. IF THE PERSON IS "OVERCOME"", IMMEDIATELY CONTACT MEDICAL AUTHORITIES AND IMPLEMENT APPROPRIATE EMERGENCY RESCUE PROCEDURES. DO NOT BECOME A CASUALTY--FOLLOW THE FACILITY'S EMERGENCY PROCEDURES AND UTILIZE PERSONAL PROTECTIVE EQUIPMENT AS NECESSARY. FOLLOW OTHER FIRST AID PROCEDURES DEPENDING UPON THE TYPE AND EXTENT OF EXPOSURE.

EMERGENCY FIRST AID

IN THE EVENT OF AN EMERGENCY, OR AN UNEXPECTED ACUTE OVEREXPOSURE TO THE MATERIAL, THE NTIS RECOMMENDS INSTITUTING APPLICABLE FIRST AID PROCEDURES AND IMMEDIATELY SENDING FOR PROPER MEDICAL ASSISTANCE. THE "EMERGENCY CARE FOR HAZARDOUS MATERIALS" BOOK AND/OR NTIS SUGGEST THE FOLLOWING "BASIC" TREATMENT GUIDELINES FOR ADULT PATIENTS FOR MATERIALS IN THE NOTED DOT CLASSIFICATION USING GOOD, APPROPRIATE EMS PROTOCOLS.

SYMPTOMS

CARDIOVASCULAR : TACHYCARDIA AND SHOCK.
CNS : APATHY; MENTAL CONFUSION; BLURRED VISION; AND TREMORS.

E	:	CHEMICAL CONJUNCTIVITIS WITH POSSIBLE SEVERE EYE INJURY.
GASTROINTESTINAL:		NAUSEA; VOMITING; ABDOMINAL PAIN; PAINFUL SWALLOWING; PROFUSE SALIVATION; AND POSSIBLE MOUTH, ESOPHAGUS, STOMACH, AND GASTROINTESTINAL TRACT LINING BURNS.
LIFE	:	UPPER AIRWAY BURNS AND EDEMA; CIRCULATORY COLLAPSE; SEVERE SKIN BURNS; AND POSSIBLE GASTRIC PERFORATION AND PERITONITIS.
RESPIRATORY	:	DYSPNEA AND TACHYPNEA; SNEEZING; COUGHING; STRIDOR; UPPER AIRWAY BURNS AND EDEMA; AND PULMONARY EDEMA.
SKIN	:	COLD, CLAMMY SKIN WITH POSSIBLE CYANOSIS; AND POSSIBLY RASHES TO IRRITATION TO CHEMICAL BURNS.

TREATMENT

CNS	:	
EYE	:	FLUSH EYES IMMEDIATELY FOR AS LONG AS 15 MINUTES WITH LARGE AMOUNTS OF WATER, OR NORMAL SALINE SOLUTION, LIFTING THE LOWER AND UPPER LIDS OCCASIONALLY OR, IF APPROPRIATE, USE EYE IRRIGATION LENS. IF THERE ARE ANY SIGNS OF EYE IRRITATION OR CHEMICAL BURNS, OBTAIN PROMPT MEDICAL ATTENTION.
GASTROINTESTINAL:		ADMINISTER 4 TO 8 OUNCES OF WATER, OR PREFERABLY CHIPPED ICE, FOR DILUTION IF THE PRODUCT WAS INGESTED AND THE PATIENT CAN SWALLOW, HAS A GOOD GAG REFLEX, AND NO DROOLING. DO NOT USE EMETICS. NEVER GIVE ANYTHING TO AN UNCONSCIOUS PERSON.
RESPIRATORY	:	MOVE THE PATIENT TO FRESH AIR AT ONCE; ASSIST VENTILATION AS NEEDED; AND ADMINISTER OXYGEN, IF NECESSARY, BY NON-REBREATHER MASK AT 6-12 LITERS PER MINUTE. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. KEEP THE AFFECTED PERSON WARM, AND AT REST, WHILE OBTAINING MEDICAL ATTENTION. MONITOR FOR PULMONARY EDEMA AND TREAT AS NECESSARY.
SKIN	:	GENTLY BRUSH AWAY DRY PARTICLES, AND BLOT, WITH ABSORBENT MATERIAL, ANY EXCESS LIQUIDS THAT ARE PRESENT. RINSE THE PATIENT WITH WATER, REMOVE CONTAMINATED CLOTHING, AND WASH THE PATIENT WITH A SURFACTANT LIKE TINCTURE OF GREEN SOAP AND LARGE QUANTITIES OF WATER FOR AS LONG AS 15 MINUTES. IF THERE ARE ANY SIGNS OF SKIN SENSITIZATION, IRRITATION, OR CHEMICAL BURNS OBTAIN PROMPT MEDICAL ATTENTION.

SECTION V - FIRE/EXPLOSION HAZARD DATA

FLASH POINT: AUTO IGNITION TEMP.: NOT APPLICABLE REFRIGERATE: NO

EXTINGUISHING MEDIA: CO2,DRY,FOAM,FOG

PROCEDURES: EXCLUDE AIR; TREAT LIKE A GASOLINE OR OIL FIRE. WEAR FULL PROTECTIVE CLOTHING WITH SUPPLIED AIR SOURCE.

UNUSUAL HAZARDS: WHEN HEATED TO DECOMPOSITION IT MAY EMIT TOXIC FUMES.

FLAMMABLE LIMITS IN AIR:

SUBSTANCE(S)	%LEL	%UEL

DI-SEC-BUTYLPHENOL	N/A	N/A
PARA-S-BUTYLPHENOL	N/A	N/A

SECTION VI-ACCIDENTAL RELEASE PROCEDURES

FOLLOW FACILITY/COMPANY'S EMERGENCY PLANS.

STOP SOURCE OF SPILL AND REMOVE ALL IGNITION SOURCES.

VENTILATE AREA OF SPILL.

CONTAIN THE SPILL AND PREVENT THE MATERIAL FROM OBTAINING ACCESS TO ANY CONFINED SPACES, PUBLIC SEWERS, OR WATERWAYS.

COLLECT THE MATERIAL USING ABSORBENTS, NON-SPARKING TOOLS, EXPLOSION PROOF VACUUMS, OR OTHER EQUIPMENT REQUIRED BY THE SIZE OF THE SPILL.

DECONTAMINATE THE AREA, COLLECTING ANY CLEANING AND RINSING MEDIA FOR PROPER RECLAMATION OR DISPOSAL.

DETERMINE APPROPRIATE COURSE OF ACTION FOR THE COLLECTED MATERIAL.

CONTACT THE APPROPRIATE AUTHORITIES AND DISPOSE ACCORDING TO GOVERNMENTAL REGULATIONS.

SECTION VII - HANDLING AND STORAGE

PROTECT CONTAINER FROM PHYSICAL ABUSE.

KEEP CONTAINER TIGHTLY CLOSED.

STORE IN A CORROSION-PROOF AREA AWAY FROM IGNITION SOURCES.

KEEP SEPARATE FROM INCOMPATIBLES.

SINCE EMPTIED CONTAINERS MAY RETAIN MATERIAL RESIDUE, FOLLOW LABEL WARNINGS EVEN AFTER CONTAINER IS EMPTY.

SECTION VIII - PERSONAL PROTECTION

EYE	:	TYPE DETERMINED BY QUALIFIED PERSON, RANGING FROM PLANO LENSES TO FULL FACE PROTECTION.
GLOVES	:	SELECT THOSE IMPERVIOUS TO THE CITED SOLVENTS OR OTHER HAZARDOUS SUBSTANCES.
HYGIENIC	:	WEAR APPROPRIATE CLEAN, PROTECTIVE CLOTHING AND KEEP CONTACT (BODY) AREAS CLEAN.
VENTILATION	:	MAINTAIN VAPOR LEVELS BELOW CITED TLV OR EXPLOSION LIMITS

EPAHO107000284

FOR MENTIONED HAZARDOUS MATERIALS.

OTHER : RESPIRATION EQUIPMENT NEEDED IF CITED TLV LIMITS ARE EXCEEDED.

SECTION IX - PHYSICAL DATA

FORM (@25'C)	: CLEAR COLORLESS TO YELLOW LIQUID				
BOILING POINT	: NOT AVAILABLE	MELTING POINT:	N.D.	ODOR THRESHOLD (PPM)	: NOT AVAILABLE
SPECIFIC GRAVITY	: NOT AVAILABLE	LBS./GAL. :	NOT AVAILABLE	% WT. SOLIDS	: NOT AVAILABLE
PH	: NOT APPLICABLE	WATER SOL. :	SLIGHT	COEF. WATER/OIL DIST (G/ML)	: NOT AVAILABLE
EVAPORATION RATE	: < ETHER	VAPOR DENSITY:	> AIR	VOLATILE ORGANIC COMPOUND (LBS./GAL.):	NOT AVAILABLE

SECTION X - REACTIVITY DATA

GENERAL STABILITY @25'C : STABLE
HAZARDOUS POLYMERIZATION : WILL NOT OCCUR
HAZARDOUS DECOMPOSITION PRODUCTS : ON THERMAL DECOMPOSITION IT MAY EMIT TOXIC FUMES, INCLUDING CO AND/OR CO2.
CONDITIONS TO AVOID : AVOID ANY HEAT, SPARKS OR STATIC ELECTRICITY.
CONDITIONS WHICH MAY CAUSE INSTABILITY: AVOID STRONG OXIDANTS.

SECTION XI - HEALTH HAZARD DATA

A REVIEW OF AVAILABLE DATA INDICATES ANY PREEXISTING ABNORMAL CONDITIONS WITH THE LISTED TARGET ORGANS MAY BE AGGRAVATED BY EXPOSURE TO THIS MATERIAL.

AFFECTED: SKIN, EYE, NOSE, THROAT, LUNGS

ROUTE OF ENTRY : CONTACT, INGESTION, INHALATION

THE HAZARDS PRESENTED ARE THOSE FOR THE HAZARDOUS SUBSTANCES PRESENTED IN SECTION II (A) UNLESS OTHERWISE NOTED.

DI-SEC-BUTYLPHENOL

EXPOSURE VALUES:

	PPM:	MG/M3:		PPM:	MG/M3:		PPM:	MG/M3:		PPM:	MG/M3:
OSHA PEL	N/A	N/A	ACGIH TLV	N/A	N/A	NIOSH TWA	N/A	N/A	VENDOR TWA	N/A	N/A
OSHA STEL	N/A	N/A	ACGIH STEL	N/A	N/A	NIOSH STEL	N/A	N/A	VENDOR STEL	N/A	N/A
OSHA CEILING	N/A	N/A	ACGIH CEILING	N/A	N/A	NIOSH CEILING	N/A	N/A	VENDOR CEILING	N/A	N/A
IDLH	N/A	N/A									

ACUTE HAZARDS

CONTACT — DI-SEC-BUTYLPHENOL IS CONSIDERED CORROSIVE TOWARD SKIN AS DEFINED BY OSHA AND DOT.

EYE — DI-SEC-BUTYLPHENOL IS EXPECTED TO BE CORROSIVE TOWARD EYES.

INGESTION — 2,6-DI-SEC-BUTYLPHENOL HAS AN ORAL(RAT) LD50 OF 1320 MG/KG (PER NIOSH).

2,4-DI-SEC-BUTYLPHENOL HAS AN INV(MUS) LD50 OF 120 MG/KG (PER NIOSH).

INHALATION — DI-SEC-BUTYLPHENOL IS EXPECTED TO CAUSE IRRITATION TO NOSE, THROAT, AND LUNGS.

PARA-S-BUTYLPHENOL

EXPOSURE VALUES:

	PPM:	MG/M3:		PPM:	MG/M3:		PPM:	MG/M3:		PPM:	MG/M3:
OSHA PEL	N/A	N/A	ACGIH TLV	N/A	N/A	NIOSH TWA	N/A	N/A	VENDOR TWA	N/A	N/A
OSHA STEL	N/A	N/A	ACGIH STEL	N/A	N/A	NIOSH STEL	N/A	N/A	VENDOR STEL	N/A	N/A
OSHA CEILING	N/A	N/A	ACGIH CEILING	N/A	N/A	NIOSH CEILING	N/A	N/A	VENDOR CEILING	N/A	N/A
IDLH	N/A	N/A									

ACUTE HAZARDS

GENERAL — AT 25 DEGREES C, THIS MATERIAL IS A WHITE TO YELLOW SOLID.

A SYNONYM FOR P-S-BUTYL PHENOL IS 4-SEC-BUTYLPHENOL.

THE CAS REGISTRY NUMBER FOR THIS MATERIAL IS: 99-71-8.

HAZARDOUS DECOMPOSITION PRODUCTS FOR THIS MATERIAL INCLUDE COX.

CONTACT — PARA-SEC-BUTYLPHENOL IS CONSIDERED CORROSIVE TOWARD SKIN AS DEFINED BY OSHA AND DOT.

EYE — PARA-SEC-BUTYLPHENOL IS EXPECTED TO BE CORROSIVE TOWARD EYES.

INGESTION — PARA-SEC-BUTYLPHENOL HAS AN ORAL(RAT) LD50 OF 1650 MG/KG.

INHALATION — PARA-SEC-BUTYLPHENOL IS EXPECTED TO CAUSE IRRIATION TO NOSE, THROAT, AND LUNGS.

SECTION XII (A) - ECOLOGICAL INFORMATION

NOT AVAILABLE

SECTION XII (B) - INCOMPATIBILITY INFORMATION

NOT AVAILABLE

SECTION XII (C) - SYNERGISTIC EFFECTS

NOT AVAILABLE

SECTION XIII - DISPOSAL CONDITIONS

MATERIAL WILL NOT BE A RCRA HAZARDOUS WASTE IF DISPOSED AS RECEIVED. HOWEVER, SUBSEQUENT USE OF THIS MATERIAL MAY REQUIRE A RE-ASSMENT OF ANY WASTES GENERATED TO DETERMINE THEIR LEGAL STATUS.

RQ VALUES OF SUBSTANCES LISTED IN SECTION II (A) AND (B), AS 100%:

SUBSTANCE(S)	DOT RQ	EPA RQ
DI-SEC-BUTYLPHENOL	N/A	N/A
PARA-S-BUTYLPHENOL	N/A	N/A

THE CALCULATED DOT RQ OF THIS MATERIAL, AS SHIPPED, IS: NOT APPLICABLE

SECTION XIV - TRANSPORT INFORMATION

THE US DOT REQUIRES THE FOLLOWING INFORMATION WHEN THIS MATERIAL IS SO TRANSPORTED PER TITLE 49 OF THE CFR.

NON-BULK	UN/NA NUMBER	: UN 2228
	DOT HAZARD CLASS	: 6.1, POISONOUS MATERIALS,
	DOT PRIMARY LABEL	: KEEP AWAY FROM FOOD LABEL/PLACARD CLASS NUMBER 6
	DOT PRIMARY PLACARD	: KEEP AWAY FROM FOOD LABEL/PLACARD CLASS NUMBER 6
	DOT PROPER SHIPPING NAME	: BUTYLPHENOLS, LIQUID
PRIMARY LABEL BULK CONTAINERS	UN/NA NUMBER	: UN 2228
	DOT HAZARD CLASS	: 6.1, POISONOUS MATERIALS,
	DOT PRIMARY LABEL	: KEEP AWAY FROM FOOD LABEL/PLACARD CLASS N
	ORGAPRIMARY PLACARD	: KEEP AWAY FROM FOOD PLACARD W/ID NUMBER PRINTED ON IT CLASS NUMBER 6
	DOT PROPER SHIPPING NAME	: BUTYLPHENOLS, LIQUID

INTERNATIONAL REGULATIONS REQUIRE THE FOLLOWING INFORMATION WHEN THIS MATERIAL IS TRANSPORTED BY WATER.

NON-BULK	UN/NA NUMBER	: UN 2228
	HAZARD CLASS	: 6.1, POISONOUS MATERIALS,
	PRIMARY LABEL	: KEEP AWAY FROM FOOD LABEL/PLACARD CLASS NUMBER 6
	PROPER SHIPPING NAME	: BUTYLPHENOLS, LIQUID

SECTION XV - REGULATORY INFORMATION

PRODUCT USE:

1. SUPERFUND AMENDMENTS & REAUTHORIZATION ACT OF 1986

SECTION 302 -- EXTREMELY HAZARDOUS SUBSTANCES

THE FOLLOWING SUBSTANCES IN THIS MATERIAL MAY REQUIRE SOME NOTIFICATION TO APPROPRIATE AUTHORITIES IF THE TOTAL AMOUNT OF SUCH MATERIAL IN YOUR POSSESSION EVER EXCEEDS THE 'PLANNING VALUES'.

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

SECTION 304 - EMERGENCY NOTIFICATION

SECTION XV - REGULATORY INFORMATION (CONTINUED)

THE FOLLOWING SUBSTANCES IN THIS MATERIAL MAY REQUIRE SOME NOTIFICATION TO APPROPRIATE AUTHORITIES IF THE TOTAL AMOUNT OF SUCH MATERIAL RELEASED TO THE ENVIRONMENT EVER EXCEEDS A REGULATED THRESHOLD.

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

SECTIONS 311/312--MSDS & EMERGENCY AND HAZARDOUS CHEMICAL INVENTORY FORM

THIS MATERIAL MAY BE APPLICABLE TO THESE REGULATIONS AND MAY REQUIRE APPROPRIATE GOVERNMENTAL REPORTS IF THE TOTAL AMOUNT OF THIS MATERIAL AND/OR ANY OF THE CONSTITUENTS LISTED IN YOUR POSSESSION EVER EXCEED THE REGULATORY THRESHOLD VALUES.

HAZARDOUS SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ
NOT APPLICABLE					

THE APPROPRIATE HAZARD CLASSES FOR THIS MATERIAL ARE:

HEALTH HAZARDS	PHYSICAL HAZARDS
ACUTE	

SECTION 313--TOXIC RELEASE

THE FOLLOWING SUBSTANCE(S) ARE 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. THESE SUBSTANCES MAY NOT BE REFLECTED IN THIS MSDS' SECTION II OR XI.

SUBSTANCE(S) WITH CAS NUMBERS	CAS NO.	TRADE SECRET	WEIGHT RANGE	VAPOR PRESSURE MM HG @C	DOT RQ

2. STATE'S RIGHT-TO-KNOW LAWS

SEVERAL STATES HAVE ENACTED STATUTES REQUIRING CERTAIN INFORMATION BE AVAILABLE ON MSDS AND/OR LABELS IN ADDITION TO THAT REQUIRED BY 29 CFR 1910.1200. THE FOLLOWING REFLECT SCHENECTADY INTERNATIONAL, INC. BEST AVAILABLE INFORMATION OF WHICH SUBSTANCES MAY BE PRESENT IN THIS MATERIAL AND, THEREFORE, APPLICABLE TO THE GIVEN STATE. CHEMICAL NAMES ARE TRUNCATED TO 125 CHARACTERS.

NONE APPLICABLE

3. INTERNATIONAL CONCERNS

THE FOLLOWING REPRESENT CERTAIN APPLICABLE INTERNATIONAL STATUTES/REGULATIONS.

SECTION XVI - OTHER

THE HEALTH AND SAFETY EFFECTS INFORMATION PRESENTED IS THAT AVAILABLE TO SCHENECTADY INTERNATIONAL, INC. (SII) AS OF THE DATE PUBLISHED. SII MAKES NO REPRESENTATION OF THE INFORMATION'S COMPLETENESS OR ACCURACY. SII EXPECTS THOSE PERSONS, RECEIVING THIS MSDS, WILL EXERCISE THEIR INDEPENDENT JUDGEMENT OR CONSULT WITH A COMPETENT HEALTH/SAFETY PROFESSIONAL IN DETERMINING THIS MATERIAL'S APPROPRIATENESS FOR A SPECIFIC USE AND TYPE OF PERSONAL PROTECTION EQUIPMENT DEEMED NECESSARY FOR THE GIVEN USE AND THE AVAILABLE ENGINEERING CONTROLS.

N/A = NOT AVAILABLE // N.A. = NOT APPLICABLE // N.D. = NOT DETERMINED DATE PRINTED 10/06/93

WEIGHT RANGES EXPRESSED AS PERCENTAGES UNLESS OTHERWISE INDICATED. RQ EXPRESSED IN POUNDS.

S-1635 R7 (12/92) MSDS ORIGINATION DATE: 07/20/89 LAST REVIEW DATE/BY: 12/23/92 DGK

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Bayer

MATERIAL SAFETY DATA SHEET

BAYER CORPORATION
PRODUCT SAFETY & REGULATORY AFFAIRS
100 Bayer Road
Pittsburgh, PA 15205-9741

TRANSPORTATION EMERGENCY
CALL CHEMTREC: 800-424-9300
DISTRICT OF COLUMBIA: 202-483-7616

NON-TRANSPORTATION
BAYER EMERGENCY PHONE...: (412) 923-1800
BAYER INFORMATION PHONE.: (800) 662-2927

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Mondur TD-80 Grade B
PRODUCT CODE.....: E0022000
CHEMICAL FAMILY.....: Aromatic Isocyanate
CHEMICAL NAME.....: Toluene Diisocyanate (TDI)
SYNONYMS.....: Benzene, 1,3-diisocyanatomethyl-
CAS NUMBER.....: 26471-62-5
FORMULA.....: C9H6N2O2

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
***** HAZARDOUS INGREDIENTS *****		
The 2,4-TDI (CAS# 584-84-9) and the 2,6-TDI (CAS# 91-08-7) isomer mixture is known as Toluene Diisocyanate (CAS# 26471-62-5). For regulatory and state right to know information on this product CAS# 26471-62-5 and its isomers 2,4-TDI and 2,6-TDI please refer to the regulatory information section of this msds.		
2,4-Toluene Diisocyanate (TDI)		
584-84-9	OSHA : .02 ppm Ceiling .15 mg/m3 Ceiling	80%
	ACGIH: .005 ppm TWA .036 mg/m3 TWA .02 ppm STEL .14 mg/m3 STEL	

EPAHO107000289

2. COMPOSITION/INFORMATION ON INGREDIENTS (Continued)

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
2,6-Toluene Diisocyanate (TDI) 91-08-7	OSHA : Not Established ACGIH: Not Established	20%

There are no established guidelines for the 2,6-Toluene Diisocyanate isomer. Bayer recommends the established 2,4-Toluene Diisocyanate guideline limits be used for the 2,6-Toluene Diisocyanate isomer.

3. HAZARDS IDENTIFICATION:

EMERGENCY OVERVIEW

DANGER! Toxic; Color: Water white to pale yellow; Form: Liquid; Odor: Sharp, pungent; Causes respiratory tract irritation; May cause allergic respiratory reaction; Harmful if inhaled; Respiratory sensitizer; Causes skin irritation; Skin sensitizer; Causes eye irritation; Harmful if swallowed; May cause lung damage; Toxic gases/fumes are given off during burning or thermal decomposition; Closed container may explode under extreme heat.

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Inhalation. Skin contact from liquid, vapors or aerosols.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE INHALATION.....: TDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure.

CHRONIC INHALATION.....: As a result of previous repeated overexposures or a single large dose, certain individuals may develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung

EPAHO107000290

3. HAZARDS IDENTIFICATION (Continued)

sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanate has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

ACUTE SKIN CONTACT.....: Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

CHRONIC SKIN CONTACT.....: Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor.

ACUTE EYE CONTACT.....: Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible. See the section on First Aid Measures for treatment.

CHRONIC EYE CONTACT.....: Prolonged vapor contact may cause conjunctivitis.

ACUTE INGESTION.....: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

CHRONIC INGESTION.....: None Found

CARCINOGENICITY.....: No carcinogenic activity was observed in lifetime inhalation studies in rats and mice (International Isocyanate Institute).

NTP.....: The National Toxicology Program reported that TDI caused an increase in the number of tumors in exposed rats over those counted in non-exposed rats. The TDI was administered in corn-oil and introduced into the stomach through a tube. Based on this study, the NTP has listed TDI as a substance that may reasonably be anticipated to be a carcinogen in its Fourth Annual Report on Carcinogens.

IARC.....: IARC has listed TDI as a substance for which there is sufficient evidence for its carcinogenicity in experimental animals but inadequate evidence for the carcinogenicity of TDI to humans (Group 2B) (IARC Monograph 39).

OSHA.....: Not regulated.

MEDICAL CONDITIONS

AGGRAVATED BY EXPOSURE.....: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: Flush with copious amounts of water, preferably lukewarm for at least 15 minutes holding eyelids open all the time. Refer

EPAHO107000291

4. FIRST AID MEASURES (Continued)

individual to physician or an ophthalmologist for immediate follow-up.

FIRST AID FOR SKIN.....: Remove contaminated clothing immediately. Wash affected areas thoroughly with soap and water for at least 15 minutes. Tincture of green soap and water is also effective in removing isocyanates. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists after the area is washed.

FIRST AID FOR INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult physician.

FIRST AID FOR INGESTION.: Do not induce vomiting. Give 1 to 2 cups of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Consult physician.

NOTE TO PHYSICIAN.....: EYES: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. SKIN: This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. INGESTION: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. RESPIRATORY: This compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

5. FIRE FIGHTING MEASURES:

FLASH POINT.....: 260.0 F (126.6 C) Pensky-Martens Closed Cup (ASTM D-93)

FLAMMABLE LIMITS:
- UPPER EXPLOSIVE LIMIT (UEL)(%): 9.5%
- LOWER EXPLOSIVE LIMIT (LEL)(%): 0.9%

AUTO-IGNITION TEMPERATURE.....: Greater than 1103 F (595 C) for TDI

EXTINGUISHING MEDIA.....: Dry Chemical; Carbon Dioxide; Foam; Water

SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing (such as rubber gloves, boots, bands around legs, arms and waist) should be worn by firefighters. No skin surface should be exposed. During a fire, TDI vapors and other irritating, highly toxic gases may generated by thermal decomposition or combustion. At temperatures greater than 350 F (177 C) TDI forms carbodiimides with the release of CO2 which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.

EPAHO107000292

5. FIRE FIGHTING MEASURES (Continued)

UNUSUAL FIRE / EXPLOSION HAZARDS: CAUTION: Reaction between water or foam and hot TDI can be vigorous.

6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Evacuate area of all persons not wearing proper protective equipment; if indoors, ventilate area to maximum extent possible; if product is on the ground, dike area to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. (See Protective Equipment Section). Major Spill or Leak (10 gallons or more): Call Bayer Corp. at 412/923-1800 for assistance and advice. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be spread. Released product may be pumped into closed, but not sealed, container for disposal. Minor Spill or Leak (less than 10 gallons): Absorb isocyanate with sawdust or other absorbent, place in suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%), or; water (90%), concentrated ammonia (3-8%) and detergent (2%). Add about 10 parts of neutralizer per one part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let CO2 escape. Clean-up: Decontaminate area with decontamination solution letting stand for at least 15 minutes. Call Bayer Corp. at 412/923-1800 if additional assistance or advice is desired.

7. HANDLING AND STORAGE:

STORAGE TEMPERATURE(MIN/MAX): 21-43 C (70-110 F)
SHELF LIFE.....: 12 months
SPECIAL SENSITIVITY.....: If container is exposed to high heat, 350 F (177 C) it can be pressurized and possibly rupture. TDI reacts slowly with water to form polyureas and liberates CO2 gas. This gas can cause sealed containers to expand and possibly rupture.
HANDLING/STORAGE PRECAUTIONS: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Prevent all contact. Do not breathe the vapors. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Exposure to vapors of heated TDI can be extremely dangerous. Employee education and training in safe handling of this product are required under the OSHA Hazard Communication Standard.

EPAHO107000293

8. PERSONAL PROTECTION:

EYE PROTECTION REQUIREMENTS.....: Liquid chemical goggles or full-face shield. Contact lenses should not be worn. If vapor exposure is causing irritation, use a full-face, air-supplied respirator.

SKIN PROTECTION REQUIREMENTS.....: Chemical resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered only by the cream to a minimum.

VENTILATION REQUIREMENTS.....: Local exhaust should be used to maintain levels below the TLV whenever TDI is handled, processed, or spray-applied. At normal room temperatures (70 F) TDI levels quickly exceed the TLV unless properly ventilated. Standard reference sources regarding industrial ventilation (e.g., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation.

RESPIRATOR REQUIREMENTS.....: An approved positive pressure air-supplied respirator is required whenever TDI concentrations are not known or exceed the Short-Term Exposure Limit of 0.02 ppm or exceed the 8-hour Time Weighted Average TLV of 0.005 ppm. An approved air-supplied respirator with full facepiece must also be worn during spray application, even if exhaust ventilation is used. For emergency and other conditions where the exposure limits may be greatly exceeded, use an approved, positive pressure self-contained breathing apparatus. TDI has poor warning properties since the odor at which TDI can be smelled is substantially higher than 0.02 ppm. Observe OSHA regulations for respirator use (29 CFR 1910.134).

MONITORING.....: TDI exposure levels must be monitored by accepted monitoring techniques to ensure that the TLV is not exceeded. (Contact Bayer Corp. Product Safety for guidance).

MEDICAL SURVEILLANCE.....: Medical supervision of all employees who handle or come in contact with TDI is recommended. These should include preemployment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with TDI. Once a person is diagnosed as sensitized to TDI, no further exposure can be permitted.

ADDITIONAL PROTECTIVE MEASURES.....: Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions.

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Liquid
COLOR.....: Water white to pale yellow
ODOR.....: Sharp, pungent

EPAHO107000294

9. PHYSICAL AND CHEMICAL PROPERTIES (Continued)

ODOR THRESHOLD.....: Greater than TLV of 0.005 ppm
MOLECULAR WEIGHT.....: 174
BOILING POINT.....: 485.6 - 489.2 F (252 - 254 C) @ 1013 hPa
MELTING/FREEZING POINT....: 50 F (10 C) for TDI
SOLUBILITY IN WATER .....: Not Soluble. Reacts slowly with water at room temperature to liberate CO2 gas.
SPECIFIC GRAVITY .....: 1.22 @ 68 F (20 C)
BULK DENSITY.....: 10.18 lbs/gal
% VOLATILE BY VOLUME.....: Negligible
VAPOR PRESSURE .....: Approx. 0.025 mmHg @ 77 F (25 C) for TDI
VAPOR DENSITY .....: 6.0 for TDI (Air = 1)

10. STABILITY AND REACTIVITY:

STABILITY.....: This is a stable material.
HAZARDOUS POLYMERIZATION...: May occur; May occur if in contact with moisture or other materials which react with isocyanates. Self-reaction may occur at temperatures over 350 F (177 C) or at lower temperatures if sufficient time is involved.
INCOMPATIBILITIES.....: Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum. Reacts with water to form heat, CO2 and insoluble ureas.
INSTABILITY CONDITIONS.....: Not Noted
DECOMPOSITION PRODUCTS.....: By high heat and fire: carbon monoxide, oxides of nitrogen, traces of HCN, TDI vapors and mist.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: Toluene Diisocyanate
ACUTE TOXICITY
ORAL LD50.....: Range of 4130-6170 (Rats and Mice)
DERMAL LD50.....: Greater than 10,000 mg/kg (Rabbits)
INHALATION LC50....: Range of 16-50 ppm (4 hr) (Rat), 10 ppm (4 hr) (Mouse), 11 ppm (4 hr) (Rabbit), 13 ppm (4 hr) (Guinea Pig).
EYE EFFECTS.....: Severe eye irritant capable of inducing corneal opacity.
SKIN EFFECTS.....: Moderate skin irritant. Primary dermal irritation score; 4.12/8.0 (Draize). However, repeated or prolonged contact may culminate in severe skin irritation and/or corrosion.
SENSITIZATION.....: Skin sensitization has been reported in guinea pigs. It has also been reported that repeated skin contact of guinea pigs with TDI has induced respiratory sensitization. Although less well defined, guinea pig exposures to TDI via the respiratory tract suggest the induction of respiratory sensitization. (TDI is known to be a respiratory sensitizer in humans at concentrations above the TLV.) There is also some evidence that

EPAHO107000295

11. TOXICOLOGICAL INFORMATION (Continued)

cross-sensitization between different types of isocyanates may occur.

CHRONIC TOXICITY.....: Sub-chronic and chronic animal studies show that the primary effects of inhaling vapors and/or aerosols of TDI are restricted to the pulmonary systems. Emphysema, pulmonary edema, pneumonitis and rhinitis are common pathologic effects. Extended exposures to as low as 0.1 ppm TDI have induced pulmonary inflammation.

CARCINOGENICITY.....: The NTP conducted carcinogenesis studies of a commercial grade TDI using rats and mice in which the test material was diluted in corn oil and administered by gavage. The investigators concluded that TDI was carcinogenic in male and female rats (fibrosarcomas, pancreatic adenomas, neoplastic liver nodules and mammary gland fibrosarcomas) and female mice (hemangiosarcomas and hepatocellular adenomas). However, chronic inhalation studies in which rats and mice were exposed to 0.05 and 0.15 ppm TDI (10-30 times recommended TLV, 8-hr level) induced no treatment-related tumorigenic effects. In these studies, both exposure levels produced extensive irritation to the nasal passages and upper respiratory system of the test animals indicating that suitable effective exposures were administered.

MUTAGENICITY.....: Mutagenic activity has been observed in bacteria (AMES/Salmonella) with metabolic activation. In vitro assays in mammalian cells have resulted in positive (mouse lymphoma forward mutation assay, and DNA strand breaks in human WBC) and negative (Chinese Hamster Ovary cells for cytogenic and sister chromatid exchange analyses, and cell transformation assays using human lung and hamster kidney cells) results. In vivo studies were negative for micronucleus formation in rats and mice, and for unscheduled DNA synthesis in rats.

DEVELOPMENTAL TOXICITY: Rats were exposed to an 80:20 mixture of 2,4- and 2,6-toluene diisocyanate vapor at analytical concentrations of 0.021 , 0.12 and 0.48 ppm. Minimal fetotoxicity was observed at a maternally toxic concentrations of 0.48 ppm. The NOEL for maternal and developmental toxicity was 0.12 ppm. No embryotoxicity or teratogenicity was observed.

12. ECOLOGICAL INFORMATION:

ECOLOGY DATA FOR: Toluene Diisocyanate

AQUATIC TOXICITY.....: LC50 - 96 hr (static): 165 mg/liter (Fathead minnow) LC50 - 96 hr (static): Greater than 508 mg/liter (Grass shrimp) LC50 - 24 hr (static): Greater than 500 mg/liter (Daphnia magna)

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: Follow all federal, state or local regulations. TDI must be disposed of in a permitted incinerator or landfill. Incineration is the preferred method for liquids. Solids are usually incinerated or landfilled.

EPAHO107000296

13. DISPOSAL CONSIDERATIONS (Continued)

EMPTY CONTAINER PRECAUTIONS.: Empty containers must be handled with care due to product residue. Decontaminate containers prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH. (See Fire/explosion and Protective Equipment Sections). Vapors and gases may be highly toxic.

TRANSPORTATION EMERGENCIES..: Bayer requires that CHEMTREC be immediately notified (800-424-9300) when this product is unintentionally released from its container during its course of distribution, regardless of the amount released. Distribution includes transportation, storage incidental to transportation, loading and unloading. Such notification must be immediate and made by the person having knowledge of the release.

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: Toluene Diisocyanate
FREIGHT CLASS BULK.....: Toluene Diisocyanate
FREIGHT CLASS PACKAGE.....: Chemicals, NOI (Toluene Diisocyanate), NMFC 60000
PRODUCT LABEL.....: Product Label Established

DOT (DOMESTIC SURFACE)

PROPER SHIPPING NAME.....: Toluene Diisocyanate
HAZARD CLASS OR DIVISION .....: 6.1
UN/NA NUMBER.....: UN2078
PACKAGING GROUP .....: PG II, TOXIC
HAZARDOUS SUBSTANCE.....: Toluene Diisocyanate
DOT PRODUCT RQ lbs (kgs).....: 100 lbs (45.4 kgs)
HAZARD LABEL(s).....: Toxic
HAZARD PLACARD(s).....: Toxic

* The U.S. Department of Transportation 49 CFR regulations have been revised to allow the use of the word "Toxic" on the Poison label and placard (See 49 CFR 172.430 (b) and 173.554 (b)).

IMO / IMDG CODE (OCEAN)

PROPER SHIPPING NAME.....: Toluene Diisocyanate
HAZARD CLASS DIVISION NUMBER...: 6.1
UN NUMBER.....: UN2078
PACKAGING GROUP.....: II
HAZARD LABEL(s).....: Toxic
HAZARD PLACARD(s).....: Toxic

ICAO / IATA (AIR)

PROPER SHIPPING NAME.....: Toluene Diisocyanate
HAZARD CLASS DIVISION NUMBER...: 6.1

EPAHO107000297

14. TRANSPORTATION INFORMATION (Continued)

ICAO / IATA (continued)

UN NUMBER.....: UN2078
SUBSIDIARY RISK.....: None
PACKING GROUP.....: II
HAZARD LABEL(s).....: Toxic
RADIOACTIVE?.....: Non-Radioactive
PASSENGER AIR - MAX. QTY. .....: 5 Liters
PASSENGER PACKING INSTRUCTION..: 609
CARGO AIR - MAX. QTY. .....: 60 Liters
CARGO AIR PACKING INSTRUCTION..: 611

15. REGULATORY INFORMATION:

OSHA STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.
TSCA STATUS.....: On TSCA Inventory
CERCLA REPORTABLE QUANTITY..: Toluene Diisocyanate, CAS# 26471-62-5, 100 lbs; 2,4-Toluene Diisocyanate, CAS# 584-84-9, 100 lbs; 2,6-Toluene Diisocyanate, CAS# 91-08-7, 100 lbs.
SARA TITLE III:
SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES..: 2,4-Toluene Diisocyanate (TDI), CAS# 584-84-9, 80 %; 2,6-Toluene Diisocyanate (TDI), CAS# 91-08-7, 20%.
SECTION 311/312 HAZARD CATEGORIES.....: Immediate Health Hazard; Delayed Health Hazard; Reactive Hazard
SECTION 313 TOXIC CHEMICALS.....: 2,4-Toluene Diisocyanate (TDI), CAS# 584-84-9, 80 %; 2,6-Toluene Diisocyanate (TDI), CAS# 91-08-7, 20%; Toluene Diisocyanate (Mixed Isomers), CAS# 264 71-62-5, 100%; Toluene Diisocyanate (Mixed Isomers) - De Mini mis Concentration for Section 313 = 0.10%.
RCRA STATUS.....: TDI (2,4, 2,6) is listed as a hazardous waste (No. U-223) under Title 40 Code of Federal Regulations, Section 261.33 (f). The residue from decontaminating a TDI spill is also classified as a hazardous waste under Section 261.3 (c)(2) or RCRA.

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

EPAHO107000298

15. REGULATORY INFORMATION (Continued)

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
2,4-Toluene Diisocyanate (TDI) 584-84-9	80%	PA1, PA2, PA4, CA1, FL, IL, MA, RI, MI, NJ1, NJ2, NJ4, CN2, NY
2,6-Toluene Diisocyanate (TDI) 91-08-7	20%	PA1, PA4, CA1, FL, IL, MA, NJ1, NJ2, NJ3, NJ4, CN2, NY
Toluene Diisocyanate (2,4- & 2,6-Toluene Diisocyanate Mixture (TDI)) 26471-62-5	100.000 %	PA1, PA4, CA1, IL, MA, NJ2, NJ4, CN2, NY

CA1 = Warning! This chemical is known to the State of California to cause cancer.
FL = Florida Substance List
IL = Illinois Toxic Substances List
MA = Massachusetts Hazardous Substance List
MI = Michigan Hazardous Substance List
NJ1 = New Jersey Hazardous Substance List
NJ2 = New Jersey Environmental Hazardous Substance List
NJ3 = New Jersey Special Health Hazardous Substance List
NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
NY = New York Hazardous Substance List
PA1 = Pennsylvania Hazardous Substance List
PA2 = Pennsylvania Special Substances List
PA4 = Pennsylvania Environmental Hazardous Substance List.
RI = Rhode Island List of Designated Substances
CN2 = Canada WHMIS Ingredient Disclosure List over 0.1%.

16. OTHER INFORMATION:

NFPA 704M RATINGS:	Health	Flammability	Reactivity	Other
	3	1	1	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS RATINGS:	Health	Flammability	Reactivity
	4*	1	1

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
*=Chronic Health Hazard

Bayer's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Bayer as a

EPAHO107000299

16. OTHER INFORMATION (Continued)

customer service.

REASON FOR ISSUE.....: Formatting to ANSI 16 Section MSDS; Revising Transportation; Revising Regulatory Section.
PREPARED BY.....: G. L. Copeland
APPROVED BY.....: J. H. Chapman
APPROVAL DATE.....: 12/11/96
SUPERSEDES DATE.....: 11/17/93
MSDS NUMBER.....: 08439

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EPAHO107000300

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BAYER CORPORATION
PRODUCT SAFETY & REGULATORY AFFAIRS
100 Bayer Road
Pittsburgh, PA 15205-9741

TRANSPORTATION EMERGENCY
CALL CHEMTREC: 800-424-9300
DISTRICT OF COLUMBIA: 202-483-7616

NON-TRANSPORTATION
BAYER EMERGENCY PHONE...: (412) 923-1800
BAYER INFORMATION PHONE.: (800) 662-2927

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: ortho-Toluendiamine (Mixed Isomers)
PRODUCT CODE.....: B-045
CHEMICAL FAMILY.....: Aromatic Diamine
CHEMICAL NAME.....: Benzene diamine, ar -methyl
SYNONYMS.....: o-TDA; o-Tolylenediamine; Methylphenylenediamine
CAS NUMBER.....: 25376-45-8
FORMULA.....: C7H10N2

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)

***** HAZARDOUS INGREDIENTS *****

TLV's for the individual isomers of Toluenediamine have not yet been established. However, Bayer has developed an exposure limit (MEL) of 0.02 ppm (Skin) for Toluenediamine (CAS# 25376-45-8)

2,3-Toluenediamine (TDA) or (1,2-Benzenediamine, 3-methyl)		
2687-25-4	OSHA : Not Established ACGIH: Not Established	38.000 %
3,4-Toluenediamine (TDA) or (1,2-Benzenediamine, 4-methyl)		
496-72-0	OSHA : Not Established ACGIH: Not Established Mobay: .02 ppm Skin	61.3%
o-Toluidine (Trace Residual in the TDA)		
95-53-4	OSHA : 5.00 ppm TWA - skin 22.00 mg/m3 TWA - skin ACGIH: 2.00 ppm TWA - skin 8.80 mg/m3 TWA - skin	Less than 0.1%

o-Toluidine is a trace - ppm residual in ortho-Toluenediamine (mixed isomers)

Continued on next page

2. COMPOSITION/INFORMATION ON INGREDIENTS (Continued)

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)

EPAHO107000301

CAS# 25376-45-8. o-Toluidine has been listed by ACGIH as a suspect human carcinogen (skin); by NTP as a anticipated human carcinogen; and by IARC as a probable human carcinogen.

2,4-Toluenediamine (TDA) or (1,3-Benzenediamine, 4-methyl)		
95-80-7	OSHA : Not Established ACGIH: Not Established	Less than 1%
Benzenediamine, ar-methyl		
25376-45-8	OSHA : Not Established ACGIH: Not Established	99.820 %

3. HAZARDS IDENTIFICATION:

EMERGENCY OVERVIEW

WARNING! Toxic; Color: Light brown as solid.; Form: Solid; Flakes; Odor: Faint ammonia; Inhalation, skin absorption, or ingestion may cause methemoglobin formation resulting in a reduced ability of the blood to carry oxygen; a symptom of this may be cyanosis (purplish-blue coloring of skin, fingernails, and lips); May cause respiratory tract irritation; Harmful if inhaled; Harmful if absorbed through skin; Causes skin irritation; Causes eye irritation; Harmful if swallowed; May cause liver damage; May cause kidney damage; May affect nervous system; May cause blood disorders; Contains material which may cause cancer based on animal data; Toxic gases/fumes are given off during burning or thermal decomposition.

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY..................: Inhalation; Skin; Eye

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

ACUTE INHALATION..............: o-TDA is considered toxic by inhalation. Inhalation of o-TDA vapors can cause methemoglobinemia with symptoms of cyanosis (a purplish-blue color of the skin) at levels above 10 to 15%. Other symptoms at this level could include headache, shallow respiration and dizziness. At higher levels o-TDA will also cause confusion, hypotension, lethargy and stupor; there may also be ataxia, dyspnea, nausea and vomiting. Above 60% dyspnea, tachycardia, convulsions and coma may occur. Cental Nervous System (CNS) depression, fatty degeneration of the liver and jaundice have been reported from many of the isomers.

CHRONIC INHALATION............: Repeated and prolonged exposure may cause fatty degeneration of the liver and jaudice. Some isomers may cause hemolysis

 Continued on next page

and resultant anemia.

ACUTE SKIN CONTACT............: o-TDA is considered toxic by skin absorption. The product may cause irritation and skin burns and can temporarily discolor the skin. The product is readily absorbed through the skin producing symptoms similar to inhalation; methemoglobinemia with symptoms of cyanosis (a purplish-blue color of the skin), headache, hypotension, dizziness, confusion, lethargy, stupor, convulsions and anemia. Molten material will cause thermal burns.

EPAHO107000302

CHRONIC SKIN CONTACT.....: Repeated and/or prolonged contact with this product may cause dermatitis as well as effects seen in Acute Skin Exposure.
ACUTE EYE CONTACT.....: Upon contact can cause irritation. May cause redness and possible tissue burns. Molten material will cause thermal burns.
CHRONIC EYE CONTACT.....: Repeated and/or prolonged contact with this product may cause conjunctivitis.
ACUTE INGESTION.....: Material is toxic by ingestion. Ingestion will cause methemoglobinemia with symptoms of cyanosis (a purplish-blue color of the skin). May cause headache, dizziness, hypotension, confusion, lethargy, weakness, stupor, nausea, vomiting, convulsions, coma, jaundice and anemia.
CHRONIC INGESTION.....: Repeated and/or prolonged ingestion of this product may effect the central nervous system, liver and kidneys.

CARCINOGENICITY.....: Laboratory experiments conducted on laboratory test animals indicate that TDA is a mutagen (Proc. Natl. Acad. Sci. USA, 72, 1975, p. 2423) and a carcinogen (J. Natl. Cancer Inst., 62, 1979, p. 1107-11116). Animal studies have also shown evidence that TDA causes liver and kidney damage. Based on laboratory animals exposed to TDA during studies indications are that overexposure to TDA may create a cancer risk to humans. ortho-Toluenediamine has been listed by the ACGIH as a suspect human carcinogen (skin).
NTP.....: o-Toluidine is listed by NTP as an anticipated human carcinogen (Group 2B). 2,4-Diaminotoluene is listed by NTP as an anticipated human carcinogen.
IARC.....: o-Toluidine is listed by IARC as probably carcinogenic to humans (Group 2A). 2,4-Diaminotoluene is listed by IARC as a probable human carcinogen (Group 2A).
OSHA.....: Not regulated

MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE.....: May aggravate an already existing kidney or liver condition. May aggravate an existing dermatitis. Hepatotoxins such as toluenediamine may adversely affect the liver previously impaired by hepatitis, cirrhosis or other liver disease.
EXPOSURE LIMITS.....: Not established for this product.

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4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: 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 to 20 minutes). Get medical attention immediately.
FIRST AID FOR SKIN.....: Remove all contaminated clothing and shoes. Discard contaminated clothing and shoes. Wash affected surface areas, including hair, beneath nails and other concealed areas with Polyethylene Glycol 400 or Polypropylene Glycol and lukewarm water. Repeat washing with soap and water. If Polyethylene Glycol 400 or Polypropylene Glycol is not available wash immediately with soap and lukewarm water (do not use hot water). You may also use a mixture of Polyethylene Glycol P-300 and ethanol in a ratio of 2:1. Contact a physician immediately.
FIRST AID FOR INHALATION: Remove to fresh air if breathing becomes difficult. If breathing has stopped, give artificial respiration. Keep affected

EPAHO107000303

person warm and at rest. Avoid physical exertion. Give 100% oxygen by mask if the patient shows signs of dyspnea (to be done by qualified medical personnel only). Do not give alcohol. Get medical attention immediately.

FIRST AID FOR INGESTION.: Ingestion is not a likely route of exposure. However, should product be ingested remove by gastric lavage or emesis. Maintain blood pressure and airway. Give oxygen if respiration is depressed (to be done by qualified medical personnel only). DO NOT perform gastric lavage or emesis if victim is unconscious. Get medical attention immediately.

NOTE TO PHYSICIAN.....: Treat any ill effects symptomatically. Methemoglobinemia (when methemoglobin concentration is over 40% or in the presence of symptoms) give methylene blue, 1% solution, 0.1 ml/kg intravenously over a 10 minute period. If methylene blue is not available, give ascorbic acid, 1 gm slowly intravenously. Absolute bed rest must be enforced if methemoglobinemia is above 40%. Continue oxygen therapy for at least 2 hours after methylene blue has been given. Antidote must be given by qualified medical personnel. Persons acutely exposed to TDA should be maintained for 24 hours under observation for cyanosis. (Dreisbach, Handbook of Poisoning, 12th Ed.)

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5. FIRE FIGHTING MEASURES:

FLASH POINT.....: 300.0 F (148.8 C) Pensky-Martens Closed Cup (ASTM D-93)

EXTINGUISHING MEDIA.....: Carbon Dioxide; Foam; Water spray for large fires.

Product Code: B-045 MSDS Page 4
Approval date: 09/12/96 Continued on next page

5. FIRE FIGHTING MEASURES (Continued)

SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by fire-fighters. Overheating of containers can result in rupture; use cold water spray to cool fire-exposed containers to minimize risk of rupture. Material supports combustion. During a fire, irritating amine vapors and toxic gases may be generated by thermal decomposition or combustion. As with all organic dust materials, there is a possibility of explosions from the airborne dust.

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6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Remove sources of flames, heating elements, gas engines, etc. This product is shipped in both the molten and solid states. If a spill occurs with the molten TDA, the area should be evacuated until the TDA solidifies. Spill cleanup should be done by personnel wearing complete body protection. Following removal of the solidified TDA, the area should be cleaned thoroughly with hot water to remove all residual TDA from surfaces. The contaminated water should be contained to prevent surface and ground water contamination. Solid TDA should be scooped into disposal containers constructed of corrosion protected carbon steel or of stainless steel. Disposal containers should bear warning of Toluenediamine, a toxic substance and a warning against skin contact or inhalation of vapors.

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7. HANDLING AND STORAGE:

EPAHO107000304

STORAGE TEMPERATURE(MIN/MAX): Ambient(Solid)--212F/302F(Molten)
SHELF LIFE.....: Two months (closed container). If stored in bulk, use a nitrogen pad. Generally this material is shipped as molten material in bulk form; greater than 5000 lbs.
SPECIAL SENSITIVITY.....: Moisture, heat (temperatures greater than 104 F), air (o-TDA oxidizes in the presence of air).
HANDLING/STORAGE PRECAUTIONS: Containers should be tightly closed to prevent contamination with foreign materials and moisture. Avoid skin and eye contact. Avoid breathing vapors if generated. Store in a cool, dry place. Avoid generation of dust; with dust-creating organic materials, there is the possibility of a dust explosion occurring. Employee education and training in safe handling of this product are required under OSHA's Hazard Communication Standard. Use nitrogen padding in bulk storage.

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8. PERSONAL PROTECTION:

EYE PROTECTION REQUIREMENTS.....: Chemical safety goggles should be worn. Plastic face shields should be worn in addition to safety goggles for complete face protection. Contact lenses should not be worn by persons who work with this product.
SKIN PROTECTION REQUIREMENTS.....: Permeation resistant gloves are recommended such as Neoprene or butyl rubber; also use rubberized boots and plastic coveralls. When molten TDA is handled, a lab apron or coat made of butyl rubber or its equivalent should be worn.
VENTILATION REQUIREMENTS.....: Local exhaust ventilation is mandatory.
RESPIRATOR REQUIREMENTS.....: Half mask or full face piece air-purifying canisters. For emergency use, supplied air or self-contained breathing apparatus. Observe OSHA regulations for respiratory use, 29 CFR 1910.134.
ADDITIONAL PROTECTIVE MEASURES.....: Safety showers and eye wash stations should be easily accessible to the work area. Educate and train employees in the safe use and handling of this material.

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9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Solid; Flakes
COLOR.....: Light brown as solid..
ODOR.....: Faint ammonia
ODOR THRESHOLD.....: Not Established
MOLECULAR WEIGHT.....: 122.17
pH .....: 9.5 to 10.5 @ 77 F (25 C) (1% solution in distilled water)
BOILING POINT.....: 491 F (255 C)
MELTING/FREEZING POINT....: 131 F - 158 F (55 C - 70 C)
SOFTENING POINT.....: 109 F - 131 F (43 F - 55 F)
SOLUBILITY IN WATER .....: Soluble
SPECIFIC GRAVITY .....: 1.035 @ 212 F (100 C)
BULK DENSITY.....: 8.637 lbs/gal @ 212 F (100 C)
VAPOR PRESSURE .....: 6 mmHg @ 212 F (100 C); 10 mmHg @ 266 F (130 C)
NITROGEN CONTENT .....: Not Established

EPAHO107000305

10. STABILITY AND REACTIVITY:

STABILITY.....: This is a stable material.
HAZARDOUS POLYMERIZATION...: Will not occur.
INCOMPATIBILITIES.....: Oxidizers, Isocyanates, and acids.
INSTABILITY CONDITIONS.....: None known
DECOMPOSITION PRODUCTS.....: By fire: CO, oxides of nitrogen and ammonia.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: Toluenediamine
ACUTE TOXICITY
ORAL LD50.....: Approx 400 mg/kg (Rat)
DERMAL LD50.....: Greater than 2 g/kg (Rabbit)
EYE EFFECTS.....: Slight Irritant (Rabbit)
SKIN EFFECTS.....: Slight Irritant (Rabbit)
CHRONIC TOXICITY.....: Chronic (repeated) exposure in laboratory animals with a structurally similar material (m-TDA) produced cancer. Based on structure similarities between m-TDA and o-TDA, o-TDA should be treated as a cancer suspect agent and should be handled with minimum exposure.
CARCINOGENICITY.....: ortho-Toluenediamine is similar in structure to meta-Toluenediamine (m-TDA) which has been shown to cause cancer in laboratory animals. o-TDA should be treated as a cancer-suspect agent and should be handled with minimum exposure.
OTHER TOXICITY DATA...: Risk of methemoglobinemia formation even after skin contact. Onset of symptoms may be delayed.

12. ECOLOGICAL INFORMATION:

NO ECOLOGICAL INFORMATION AVAILABLE

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: Waste must be disposed of in a RCRA approved hazardous chemical landfill where permitted by local authorities. Drums containing o-TDA should not be reused but should be buried in a RCRA permitted hazardous chemical landfill. Disposal should be completed by an authorized, licensed disposal agent. Incineration of o-TDA at controlled rates in a properly designed chemical waste incinerator is the preferred method of disposal.
EMPTY CONTAINER PRECAUTIONS.: Empty containers retain product 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. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

EPAHO107000306

14. TRANSPORTATION INFORMATION:

TECHNICAL SHIPPING NAME.....: ortho-Toluenediamine (Mixed Isomers)
FREIGHT CLASS BULK.....: Chemicals, NOI
FREIGHT CLASS PACKAGE.....: Chemicals, NOI, NMFC 60000
PRODUCT LABEL.....: Product Label Established

DOT (DOMESTIC SURFACE)

PROPER SHIPPING NAME.....: Toxic Solids, Organic, N.O.S.
HAZARD CLASS OR DIVISION .....: 6.1
UN/NA NUMBER.....: UN2811
PACKAGING GROUP .....: PG III
HAZARDOUS SUBSTANCE.....: Toluenediamine
DOT PRODUCT RQ lbs (kgs).....: 10 lbs (4.5 kgs)
HAZARD LABEL(s).....: Keep Away From Food
HAZARD PLACARD(s).....: Keep Away From Food

IMO / IMDG CODE (OCEAN)

PROPER SHIPPING NAME.....: Toxic Solid, Organic, N.O.S.
HAZARD CLASS DIVISION NUMBER...: 6.1
UN NUMBER.....: UN2811
PACKAGING GROUP.....: III
HAZARD LABEL(s).....: Toxic
HAZARD PLACARD(s).....: Toxic

ICAO / IATA (AIR)

PROPER SHIPPING NAME.....: Toxic Solid, Organic, N.O.S.
HAZARD CLASS DIVISION NUMBER...: 6.1
UN NUMBER.....: UN2811
SUBSIDIARY RISK.....: None
PACKING GROUP.....: III
HAZARD LABEL(s).....: Toxic
RADIOACTIVE?.....: Non-Radioactive
PASSENGER AIR - MAX. QTY. .....: 100 kg
PASSENGER PACKING INSTRUCTION..: 619
CARGO AIR - MAX. QTY. .....: 200 kg
CARGO AIR PACKING INSTRUCTION..: 619

15. REGULATORY INFORMATION:

OSHA STATUS.....: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

Product Code: B-045 MSDS Page 8
Approval date: 09/12/96 Continued on next page

15. REGULATORY INFORMATION (Continued)

TSCA STATUS.....: On TSCA Inventory
CERCLA REPORTABLE QUANTITY..: ortho-Toluenediamine (mixed isomers), CAS# 25376-45-8 = 10 lbs
SARA TITLE III:
SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES..: None
SECTION 311/312 HAZARD CATEGORIES.....: Immediate Health Hazard; Delayed Health Hazard

EPAHO107000307

SECTION 313
TOXIC CHEMICALS.....: Toluenediamine, CAS# 25376-45-8, 100%. De Minimis Concentration for Section 313 = 0.1%.
RCRA STATUS.....: Waste is considered hazardous under RCRA Regulations criteria 40 CFR. Part 261. RCRA Hazardous Waste Number is U221.

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
2,3-Toluenediamine (TDA) or (1,2-Benzenediamine, 3-methyl) 2687-25-4	38.000 %	PA3, NJ1, NJ4
3,4-Toluenediamine (TDA) or (1,2-Benzenediamine, 4-methyl) 496-72-0	61.3%	PA1, IL, MA, NJ1, NJ4, CN2, NY
o-Toluidine (Trace Residual in the TDA) 95-53-4	Less than 0.1%	PA2, CA , MA, NJ3, CN2
2,4-Toluenediamine (TDA) or (1,3-Benzenediamine, 4-methyl) 95-80-7	Less than 1%	PA1, PA2, CA , FL, IL, MA, MI, NJ1, NJ2, NJ3, CN2, NY

CA = California Proposition 65
FL = Florida Substance List
IL = Illinois Toxic Substances List
MA = Massachusetts Hazardous Substance List
MI = Michigan Hazardous Substance List
NJ1 = New Jersey Hazardous Substance List
NJ2 = New Jersey Environmental Hazardous Substance List
NJ3 = New Jersey Special Health Hazardous Substance List
NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
NY = New York Hazardous Substance List
PA1 = Pennsylvania Hazardous Substance List
PA2 = Pennsylvania Special Substances List
PA3 = Pennsylvania Non-hazardous present at 3% or greater.
CN2 = Canada WHMIS Ingredient Disclosure List over 0.1%.

16. OTHER INFORMATION:

NFPA 704M RATINGS:

Health	Flammability	Reactivity	Other
3	1	0	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS RATINGS:

Health	Flammability	Reactivity
3*	1	0

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
*=Chronic Health Hazard

Bayer's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Bayer as a

EPAHO107000308

customer service.

REASON FOR ISSUE.....: Formatting to ANSI 16 Section MSDS
PREPARED BY.....: G. L. Copeland
APPROVED BY.....: J. H. Chapman
APPROVAL DATE.....: 09/12/96
SUPERSEDES DATE.....: 01/10/96
MSDS NUMBER.....: 25282

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CSC 1-7-98 JW
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Safety Dept
Tank wash
Bayer Dispatch

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BAYER CORPORATION
PRODUCT SAFETY & REGULATORY AFFAIRS
100 Bayer Road
Pittsburgh, PA 15205-9741

TRANSPORTATION EMERGENCY
CALL CHEMTREC: 800-424-9300
DISTRICT OF COLUMBIA: 202-483-7616

NON-TRANSPORTATION
BAYER EMERGENCY PHONE...: (412) 923-1800
BAYER INFORMATION PHONE.: (800) 662-2927

1. CHEMICAL PRODUCT IDENTIFICATION:

PRODUCT NAME.....: Desmodur N-3390
PRODUCT CODE.....: D-425
CHEMICAL FAMILY.....: Aliphatic Polyisocyanate
CHEMICAL NAME.....: 1,6-Hexamethylene Diisocyanate Based Polyisocyanate
SYNONYMS.....: Polymeric Hexamethylene Diisocyanate
FORMULA.....: Not Applicable

2. COMPOSITION/INFORMATION ON INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
***** HAZARDOUS INGREDIENTS *****		
Homopolymer of HDI 28182-81-2	OSHA : Not Established ACGIH: Not Established	90 %
The recommended Manufacturer Guideline Level (MGL) for HDI based Polyisocyanates is: 0.5 mg/m3 (TWA - averaged over 8 hours) and 1.0 mg/m3 Short Term Exposure (STEL - averaged over 15 minutes)		
Hexamethylene Diisocyanate (HDI) 822-06-0	OSHA : Not Established ACGIH: .005 ppm TWA	Less than 0.15 %
Bayer also recommends a ceiling level of 0.02 ppm (Manufacturer Guideline Level (MGL)).		
Aromatic 100 (Solvent Naphtha) (AR100) 64742-95-6	OSHA : Not Established ACGIH: Not Established	5 %
50 ppm is recommended exposure limit by manufacturer.		

2. COMPOSITION/INFORMATION ON INGREDIENTS (Continued)

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS	CONCENTRATION (%)
n-Butyl Acetate (BA) 123-86-4	OSHA : 150.00 ppm TWA	5 %

EPAHO107000310

	200.00 ppm	STEL
ACGIH:	150.00 ppm	TWA
	200.00 ppm	STEL

3. HAZARDS IDENTIFICATION:

****
* EMERGENCY OVERVIEW *
*
* WARNING! Combustible; Color: Clear/Pale Yellow; Form: *
* Liquid; Odor: Of solvent; May cause eye, skin, and *
* respiratory tract irritation; May cause allergic respiratory *
* reaction; Harmful if inhaled; May cause allergic skin *
* reaction; May cause lung damage; Vapors may spread long *
* distances and ignite; Closed container may explode under *
* extreme heat or when contaminated with water; Toxic *
* gases/fumes are given off during burning or thermal *
* decomposition. *
****

POTENTIAL HEALTH EFFECTS:

ROUTE(S) OF ENTRY.....: Inhalation; Skin Contact; Eye Contact.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:
ACUTE INHALATION.....: HDI vapors or mist at concentrations above the TLV or MGL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction.). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or MGL with similar symptoms as well as an asthma attack. Exposure well above the TLV or MGL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills) has also been reported. Solvent vapors may be irritating to the eyes, nose and throat. Symptoms of irritation may include: redness, burning, and itching of the eyes, dryness of the throat and tightness of the chest. Other possible symptoms of overexposure include: headache, nausea, narcosis, fatigue and loss of appetite. A concentration of 200 ppm BA can cause eye, nose, and throat irritation. At 300 ppm these effects can become severe.
CHRONIC INHALATION.....: As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV or MGL. These

3. HAZARDS IDENTIFICATION (Continued)

symptoms, which include: chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has also been reported to cause lung damage, including decrease in lung function, which may be permanent. Sensitization may be either temporary or permanent. Chronic exposure to organic solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include: loss of memory, loss of intellectual ability and loss of

EPAHO107000311

coordination.
ACUTE SKIN CONTACT.....: Isocyanates react with skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling or blistering. Some persons may develop skin sensitization from skin contact. Cured material is difficult to remove. Repeated or prolonged skin contact with solvents can result in dry, defatted and cracked skin causing increased susceptibility to infection. In addition, skin irritation (i.e. redness, swelling), which may develop into dermatitis, may occur from skin contact. Solvents can penetrate the skin and may cause systemic effects similar to those identified under acute inhalation symptoms.
CHRONIC SKIN CONTACT.....: Prolonged contact with the isocyanate can cause reddening, swelling, rash, scaling or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material or even as a result of vapor-only exposure. Chronic skin exposure to solvents may cause effects similar to those identified under chronic inhalation effects.
ACUTE EYE CONTACT.....: Liquid, aerosols and vapors of this product (isocyanate and solvents) are irritating and can cause tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.
CHRONIC EYE CONTACT.....: May result in corneal opacity (clouding of the eye surface). Prolonged vapor contact may cause conjunctivitis.
ACUTE INGESTION.....: Can result in irritation and possible corrosive action in the mouth, stomach tissue and digestive tract. Vomiting may cause aspiration of the solvent resulting in chemical pneumonitis.
CHRONIC INGESTION.....: None Found

CARCINOGENICITY
NTP.....: Not listed
IARC.....: Not listed
OSHA.....: Not regulated

MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE.....: Asthma and other respiratory disorders (bronchitis, emphysema, hyperreactivity), skin allergies, eczema.
EXPOSURE LIMITS.....: Not established for product as a whole. Refer to Section II for exposure limits of hazardous constituents. The Manufacturer Guideline Level of 0.5 mg/m3 - TWA and 1.0 mg/m3 - STEL for

Product Code: D-425 MSDS Page 3
Approval date: 03/21/96 Continued on next page

3. HAZARDS IDENTIFICATION (Continued)

the Homopolymer of HDI and 0.02 ppm ceiling for HDI monomer are internal guides based on limited data; they are provided as guides pending the review of future data.

4. FIRST AID MEASURES:

FIRST AID FOR EYES.....: Flush with clean, lukewarm water (low pressure) for at least 15 minutes, while lifting eyelids. Refer individual to physician or ophthalmologist for immediate follow-up.
FIRST AID FOR SKIN.....: Remove contaminated clothing immediately. Wash affected areas thoroughly with soap and water. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists.
FIRST AID FOR INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Treatment is essentially symptomatic. Consult physician.

EPAHO107000312

FIRST AID FOR INGESTION.: DO NOT INDUCE VOMITING. Give 1 to 2 cups of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON. Consult physician.

NOTE TO PHYSICIAN.....: Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation frequently. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This product is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the product. Inhalation: This product is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material must be removed from any further exposure to any isocyanate.

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5. FIRE FIGHTING MEASURES:

FLASH POINT.....: 135.0 F (57.2 C) Setaflash (ASTM D-3243, D-3278, D-3828)

FLAMMABLE LIMITS:

UPPER EXPLOSIVE LIMIT (UEL)(%): 7.5 BA
LOWER EXPLOSIVE LIMIT (LEL)(%): 1.2 BA
UPPER EXPLOSIVE LIMIT (UEL)(%): 7.5 AR100
LOWER EXPLOSIVE LIMIT (LEL)(%): 1.0 AR100

EXTINGUISHING MEDIA.....: Dry Chemical; Carbon Dioxide; Foam; Water spray for large fires.

5. FIRE FIGHTING MEASURES (Continued)

SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing should be worn by firefighters. During a fire, HDI vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion (See Section 10) Closed container may explode when exposed to extreme heat or burst when contaminated with water (CO_2 evolved). Solvent vapors may be heavier than air. Stagnant air may cause vapors to accumulate and travel along the ground to an ignition source which may result in a flashback to the source of the vapor.

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6. ACCIDENTAL RELEASE MEASURES:

SPILL OR LEAK PROCEDURES.....: Evacuate nonessential personnel. Remove all sources of ignition and ventilate the area. Notify appropriate authorities if necessary. Put on personal protective equipment (see Section VII). Dike or impound spilled material and control further spillage if feasible. Cover the spill with sawdust, vermiculite, Fuller's earth or other absorbent material. Pour decontamination solution over spill area and allow to react for at least 10 minutes. Collect material in open containers and add further amounts of decontamination solution. Remove containers to a safe place, cover loosely, and allow to stand for 24 to 48 hours. Wash down spill area with decontamination solutions. Decontamination solutions: nonionic surfactant Union Carbide's Tergitol TMN-10 (20%) and water (80%); concentrated ammonia (3-8%), detergent (2%) and water (90-95%).

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7. HANDLING AND STORAGE:

EPAHO107000313

STORAGE TEMPERATURE(MIN/MAX): -30 F (-34 C)/122 F (50 C)
SHELF LIFE.....: 6 months @ 77 F (25 C) after receipt of material by customer.
SPECIAL SENSITIVITY.....: If container is exposed to high heat, it can be pressurized and possibly rupture explosively. HDI reacts slowly with water to form CO2 gas. This gas can cause sealed containers to expand and possibly rupture explosively.
HANDLING/STORAGE PRECAUTIONS: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. At maximum storage temperatures noted, material may slowly polymerize without hazard. Ideal storage temperature range for ease of handling is 50-81 F (10-27 C). Avoid contact with skin and eyes. Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard.

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8. PERSONAL PROTECTION:

REQUIRED WORK/HYGIENE PROCEDURES...: Precautions must be taken so that persons handling this product do not allow contact with the eyes or skin. In spray operations, protection must be afforded against exposure to both vapor and spray mist.
EYE PROTECTION REQUIREMENTS.....: Safety glasses, splash goggles or face shield. Contact lenses should not be worn.
SKIN PROTECTION REQUIREMENTS.....: Permeation resistant gloves. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area protected only by the cream to a minimum.
VENTILATION REQUIREMENTS.....: Good industrial hygiene practice dictates that worker protection should be achieved through engineering controls such as ventilation whenever feasible. When such controls are not feasible to achieve full protection, the use of respirators and other personal protective equipment is mandated.(SEE RESPIRATOR REQUIREMENTS) Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. Curing ovens must be ventilated to prevent emissions into the workplace. If oven off-gases are not vented properly (i.e. they are released into the work area), it is possible to be exposed to airborne monomeric HDI.
RESPIRATOR REQUIREMENTS.....: A respirator that is recommended or approved for use in isocyanate containing environments (air purifying or fresh air supplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures. A supplied air respirator (either positive pressure or continuous flow type) is recommended. Before an air-purifying respirator can be used, air monitoring must be performed to measure airborne concentrations of HDI monomer, HDI polyisocyanate and organic solvent(s). See the outline below for the specific conditions under which air-purifying respirators can be used. Observe OSHA regulations for respirator use (29 CFR 1910.134).
SPRAY APPLICATION:
A. Good industrial hygiene practice dictates that when isocyanate based coatings are spray applied, some form of respiratory protection should be worn. During the spray application of organic solvent containing coatings systems, the use of a supplied-air (either positive pressure or continuous flow type) respirator is mandatory when ONE OR MORE of the following conditions exists:
- the airborne isocyanate concentrations are not known; or
- the airborne isocyanate monomer concentrations exceed 0.05 ppm (10 times the TLV); or

EPAHO107000314

-the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the MGL); or
- no airborne solvent concentration exceeds its odor threshold; or
- spraying is performed in a confined space (See OSHA Confined Space Standard 29 CFR 1910.146).

8. PERSONAL PROTECTION (Continued)

A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing spray paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met:
- the airborne isocyanate monomer concentrations are known to be below 0.05 ppm (10 times the TLV); and
- the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the MGL); and
- at least one solvent has a published odor threshold*; and
- at least one airborne solvent concentration exceeds its odor threshold and that solvent's odor threshold is lower than its TLV

NON-SPRAY OPERATIONS:

A. During non-spray operations such as mixing, batch making, brush or roller application, etc., at elevated temperatures (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne isocyanate vapors. Therefore, when the coatings system contains solvents and will be applied in a non-spray manner, a supplied-air (either positive pressure or continuous flow type) respirator is mandatory when ONE OR MORE of the following conditions exists:
- the airborne isocyanate concentrations are not known; or
- the airborne isocyanate monomer concentrations exceed 0.05 ppm (10 times the TLV); or
-the polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the MGL); or
- no airborne solvent concentration exceeds its odor threshold; or
-operations are performed in a confined space (See OSHA Confined Space Standard 49 CFR 1910.146).

A properly fitted air purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met:
- the airborne concentrations of the isocyanate monomer are below 0.05 ppm (10 times the TLV); and
- the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m3 averated over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the MGL); and
-at least one solvent has a published odor threshold*; and
-at least one airborne solvent concentration exceeds its odor threshold and that solvent's odor threshold is lower than its TLV.

MONITORING.....: Refer to Patty's Industrial Hygiene and Toxicology-Volume 1 (3rd edition) Chapter 17 and volume III (1st edition) Chapter 3-for guidance concerning appropriate air sampling strategy to determine airborne concentrations of isocyanates and solvent.

MEDICAL SURVEILLANCE.....: Medical supervision of all employees who handle or come in contact with this product is recommended. This should include preemployment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum). Persons with asthma-type conditions, chronic bronchitis, other chronic respiratory deseases or recurrent skin eczema or sensitization should be excluded from working with

EPAHO107000315

8. PERSONAL PROTECTION (Continued)

isocyanates. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

ADDITIONAL PROTECTIVE MEASURES.....: Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions. For additional information, see Bayer's "Health and Safety Information for Hexamethylene Diisocyanate Based Polyisocyanates".

* We recommend using the Geometric Mean Air Odor Threshold found in Table 5.1 of "Odor Thresholds for Chemicals with Established Occupational Health Standards," - AIHA

9. PHYSICAL AND CHEMICAL PROPERTIES:

PHYSICAL FORM.....: Liquid
COLOR.....: Clear/Pale Yellow
ODOR.....: Of solvent
MOLECULAR WEIGHT.....: Approx. 500 (polyisocyanate)
BOILING POINT.....: Approx. 320 F (160 C)
MELTING/FREEZING POINT....: Not established
SOLUBILITY IN WATER .....: Resin is insoluble - reacts slowly with water to liberate CO2 gas.
SPECIFIC GRAVITY .....: 1.1 @ 68 F (20 C)
BULK DENSITY.....: 9.4 lbs/gal
% VOLATILE BY VOLUME.....: Approximately 13%
VAPOR PRESSURE .....: Polyisocyanate: Approx. 7.5 x 10-5 mm Hg @ 20 C; BA: 15 mm Hg @ 20 C; AR100: 4 mm Hg @ 38 C

10. STABILITY AND REACTIVITY:

STABILITY.....: This is a stable material.
HAZARDOUS POLYMERIZATION...: May occur; Contact with moisture or other materials which react with isocyanates or temperatures over 400 F (204 C) may cause polymerization.
INCOMPATIBILITIES.....: Water, amines, strong bases, alcohols, metal compounds and surface active materials.
INSTABILITY CONDITIONS.....: None known.
DECOMPOSITION PRODUCTS.....: By high heat and fire: carbon dioxide, carbon monoxide, oxides of nitrogen, HCN, HDI.

11. TOXICOLOGICAL INFORMATION:

TOXICITY DATA FOR: HDI homopolymer materials except where indicated.
ACUTE TOXICITY
ORAL LD50.....: Estimated to be greater than 10000 mg/kg (rats). (Based on the results of actual tests conducted using specific HDI-homopolymer products.)
DERMAL LD50.....: Estimated to be greater than 5000 mg/kg (rabbits). (Based on the results of actual tests conducted using specific HDI-homopolymer products.)
INHALATION LC50....: Lower respiratory (pulmonary) irritant. LC50 values

EPAHO107000316

range from 137-1150 mg/m3 were obtained in rats exposed to aerosols. (4H exp.)
EYE EFFECTS.....: Severe irritant capable of inducing corneal injury (Rabbit); maximum primary eye irritation score: 54.6/110 for a 24 hr. exposure.
SKIN EFFECTS.....: Moderate irritant; primary dermal irritation score: 3.4/8.0 (rabbit)
SENSITIZATION.....: Pulmonary and dermal sensitizer in animals and humans. Evidence exists that cross-sensitization between HDI and other isocyanates, particularly hydrogenated MDI and TDI, can occur.
OTHER ACUTE EFFECTS: AMES TEST: Negative for Desmodur N-100 (100% solids material).
SUBCHRONIC TOXICITY...: Rats exposed to a HDI homopolymer (isocyanurate type, specifically, the solvent-free Desmodur N-3300), at 4.3, 14.7 and 89.8 mg/m3 for three weeks (6 hrs/day, 5 days/wk) exhibited respiratory distress and inflammation of the nasal passages at 14.7 mg/m3 and above. At the 89.8 mg/m3 level, inflammatory lesions at many sites of the lungs were also observed. The No Observable Effect Level (NOEL) was 4.3 mg/m3. Rats were also exposed to an HDI homopolymer (isocyanurate type, specifically, the solvent-free product Desmodur N-3300), for 13 weeks (6 hrs/day, 5 days/wk) at aerosol concentrations of 0.5, 3.3 and 26.4 mg/m3. Body weight gain of male rats of the 26.4 mg/m3 group were slightly reduced toward the end of the study. The lung weight to body weight ratio was significantly increased in the male and female rats of the 26.4 mg/m3 group. Histopathologic diagnosis of these animals revealed inflammatory changes and formation of fibrous tissue at the point of injury in the respiratory tract. In addition, the lung function tests at the end of the study provided evidence of a chronic obstructive lung disorder in rats of the 26.4 mg/m3 group. The No Observable Effect Level (NOEL) in this study is considered to be 3.3 mg/m3.
OTHER TOXICITY DATA...: Mice were exposed to a liquid aerosol of an HDI homopolymer (isocyanurate type, specifically, the solvent-free product Desmodur N-3300), mixed with acetone for three hours. The irritation potential expressed as the RD50 (the concentration which is predicted to reduce the respiratory rate 50%) was 20.8 mg/m3 (95% confidence interval = 18.3 to 23.9 mg/m3). Pulmonary (lung) irritation was observed first, followed by sensory (eye, nose, and throat) irritation.

TOXICITY DATA FOR: BA

Product Code: D-425 MSDS Page 9
Approval date: 03/21/96 Continued on next page

11. TOXICOLOGICAL INFORMATION (Continued)

ACUTE TOXICITY
ORAL LD50.....: 14,000 mg/kg (rat)
INHALATION LC50....: 2000 ppm (rat)
EYE EFFECTS.....: Severe irritant, 20 mg (rabbit)
SKIN EFFECTS.....: Moderate irritant, 500 mg/24H (rabbit)

TOXICITY DATA FOR: AR100
ACUTE TOXICITY
ORAL LD50.....: Estimated to be greater than 5000 mg/kg (rat) by Exxon.
DERMAL LD50.....: Estimated to be greater than 2000 mg/kg (rabbit) by Exxon

TOXICITY DATA FOR: Same Material in Different Solvent
ACUTE TOXICITY
ORAL LD50.....: Greater than 5000 mg/kg (rat)
INHALATION LC50....: 430-450 mg/m3 (as aerosol), 4H exposure (rat)
EYE EFFECTS.....: Slight irritation for a short time (rabbit)
SKIN EFFECTS.....: Non-irritant, 24H (rabbit)

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12. ECOLOGICAL INFORMATION:

EPAHO107000317

NO ECOLOGICAL INFORMATION AVAILABLE

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13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD.....: Waste must be disposed of in accordance with federal, state and local environmental control regulations. Incineration is the preferred method. Empty containers must be handled with care due to product residue and combustible solvent vapor. Decontaminate containers prior to disposal. DO NOT HEAT OR

EPAHO107000318

Kinder Morgan @ DOW2569
2569

EPAHO10700319

CES Environmental Services, Inc.

4904 Griggs Road
Houston TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1460

Waste Pre-Acceptance/Approval Letter

Date **12/27/2007**

Dear **Scott Goulas**

Thank you for choosing CES Environmental Services, Inc. for you waste disposal and/or recycling needs. The following waste stream has been approved at our facility in Houston, TX. If the waste received does not conform to the profile, then rejection or additional charges may apply.

CES Profile # 2569

Expiration Date 12/27/2009

Generator: Kinder Morgan @ Dow
Address: 3410 CR 226 Gate 13
Clute, TX

Waste Information

Name of Waste: Glycol and water
TCEQ Waste Code #: Recycle
Container Type:
Detailed Description of Process Generating Waste:
Remaining material from the recovery of TEG from pressure test fluid
Color: greenish / blue **Odor:** slight glycol **pH:** 8-10
Physical State:
Incompatibilities: Oxidigers
Safety Related Data/Special Handling:
Level D

If you have any questions concerning this approval and/or the conditions, then please feel free to contact our office at (713) 676-1460.

Thank you,

Matt Bowman, President
CES Environmental Services, Inc.

CES Environmental Services, Inc.
4904 Griggs Road Houston, TX 77021
Phone: (713) 676-1460 Fax: (713) 676-1676
http://www.cesenvironmental.com
TCEQ Industrial Solid Waste Permit No: 30948
U.S. EPA ID No: TXD008950461 ISWR No: 30900

SECTION 1: Generator Information

Company:	Kinder Morgan @ Dow Chemical		
Address:	3410 County RD 226		
City, State, Zip:	Clute, TX 77531		
Contact:	Andrew Adams	**Title:**	Operations Specialist
Phone No:	979-233-0118	**Fax No:**	
24/hr Phone:	CES - 713-676-1460		
U.S. EPA I.D. No:	N/A		
State I.D.	N/A - Recyclable Material	**SIC Code:**	

SECTION 2: Billing Information – ☐ Same as Above

Company:	Coastal Chemical NSPEC		
Address:	P.O. Box 820		
City, State, Zip:	Abbeville, LA 70511-0820		
Contact:	Scott Goulas	**Title:**	Project Coordinator
Phone No:	337-261-0796 Cell:337-322-5715	**Fax No:**	337-272-0153

SECTION 3: General Description of the Waste

Name of Waste: Glycol and Water
Detailed Description of Process Generating Waste: Remaining material from the recovery of TEG from pressure test fluid

Physical State: ☒ Liquid ☐ Sludge ☐ Powder ☐ Solid ☐ Filter Cake ☐ Combination

Color: Greenish/blue **Odor:** slight glycol

Specific Gravity (water=1): .90-1.0 **Density:** 8 lbs/gal

Layers: ☐ Single-phase ☒ Multi-phase

Container Type:	☐ Drum	☐ Tote	☒ Truck	☐ Other (explain)
Container Size:	____	____	5500	____

Frequency: ☐ Weekly ☐ Monthly ☐ Quarterly ☒ Yearly
Number of Units (containers): 2 **Other:** ____
Texas State Waste Code No: ____ N/A - Recyclable Material
Proper U.S. DOT Shipping Name: Non-RCRA; Non-DOT Regulated Material
Class: NA **UN/NA:** NA **PG:** NA **RQ:** NA

Flash Point >~~165~~ 200	**pH** 8-10	**Reactive Sulfides** 0mg/l	**Reactive Cyanides** 0mg/l	**Solids** <2%
Oil&Grease >1500mg/l	**TOC** >20,000mg/l	**Zinc** 0mg/l	**Copper** 0mg/l	**Nickel** 0mg/l

713 713 8664

SECTION 4: Physical and Chemical Data

COMPONENT TABLE The waste consists of the following materials	Concentration Ranges are acceptable	Units or %
TEG	1-5	%
Water	95-99	%
Oil	0-.5	%
Dirt, rust and scale	0-2	%

SECTION 5: Safety Related Data

If the handling of this waste requires the use of special protective equipment, please explain.
Level D

SECTION 6: Attached Supporting Documents

List all documents, notes, data, and/or analysis attached to this form as part of the waste approval package.
CES Evaluation Report

SECTION 7: Incompatibilities

Please list all incompatibilities (if any):
oxidizers

SECTION 8: Generator's Knowledge Documentation

Laboratory analysis of the hazardous waste characteristics, listed below, WAS NOT PERFORMED based upon the following generator knowledge:

TCLP Metals: X
TCLP Volatiles: X
TCLP Semi-Volatiles: X
Reactivity: X
Corrosivity: X
Ignitability: X

SECTION 9: Generator's Certification

The information contained herein is based on ☒ generator knowledge and/or ☒ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the materials tested are representative of all materials described by this document.

Authorized Signature: Agent For Kinder Morgan Date: 12/27/07

Printed Name/Title: Project Coordinator

CES USE ONLY (DO NOT WRITE IN THIS SPACE)

Compliance Officer: [signature] Additional Information: 16/gallon

Date: 12-27-07 Approved Rejected Trans 70.00/Hr + FSC

Approval Number: 2569 Trailer Rinse 120.00

EPAHO107000322

SECTION 10: Waste Receipt Classification Under 40 CFR 437

Is this material a wastewater or wastewater sludge? ☒ YES ☐ NO

If 'Yes', complete this section.

PLEASE CHECK THE APPROPRIATE BOX. IF NO APPROPRIATE CATEGORY, GO TO THE NEXT PAGE.

Metals Subcategory: Subpart A

- ☐ Spent electroplating baths and/or sludges
- ☐ Metal finishing rinse water and sludges
- ☐ Chromate wastes
- ☐ Air pollution control blow down water and sludges
- ☐ Spent anodizing solutions
- ☐ Incineration wastewaters
- ☐ Waste liquid mercury
- ☐ Cyanide-containing wastes greater than 136 mg/l
- ☐ Waste acids and bases with or without metals
- ☐ Cleaning, rinsing, and surface preparation solutions from electroplating or phosphating operations
- ☐ Vibratory deburring wastewater
- ☐ Alkaline and acid solutions used to clean metal parts or equipment

Oils Subcategory: Subpart B

- ☐ Used oils
- ☒ Oil-water emulsions or mixtures
- ☐ Lubricants
- ☐ Coolants
- ☐ Contaminated groundwater clean-up from petroleum sources
- ☐ Used petroleum products
- ☐ Oil spill clean-up
- ☐ Bilge water
- ☐ Rinse/wash waters from petroleum sources
- ☐ Interceptor wastes
- ☐ Off-specification fuels
- ☐ Underground storage remediation waste
- ☐ Tank clean-out from petroleum or oily sources
- ☐ Non-contact used glycols
- ☐ Aqueous and oil mixtures from parts cleaning operations
- ☐ Wastewater from oil bearing paint washes

Organics Subcategory: Subpart C

- ☐ Landfill leachate
- ☐ Contaminated groundwater clean-up from non-petroleum sources
- ☐ Solvent-bearing wastes
- ☐ Off-specification organic product
- ☐ Still bottoms
- ☐ Byproduct waste glycol
- ☐ Wastewater from paint washes
- ☐ Wastewater from adhesives and/or epoxies formulation
- ☐ Wastewater from organic chemical product operations
- ☐ Tank clean-out from organic, non-petroleum sources

(1) If the waste contains oil and grease at or in excess of 100 mg/L, the waste should be classified in the oils subcategory.

(2) If the waste contains oil and grease less than 100 mg/L, and has any of the pollutants listed below in concentrations in excess of the values listed below, the waste should be classified in the metals subcategory.

Cadmium: 0.2 mg/L
Chromium: 8.9 mg/L
Copper: 4.9 mg/L
Nickel: 37.5 mg/L

(3) If the waste contains oil and grease less than 100 mg/L, and does not have concentrations of cadmium, chromium, copper, or nickel above any of the values listed above, the waste should be classified in the organics subcategory.

☐ Metals Subcategory

☐ Oils Subcategory

☐ Organics Subcategory

SECTION 11: Additional Instructions

If you cannot determine the correct subcategory in Section 9 and you did not furnish data for the concentration of Cadmium, Chromium, Copper, Nickel, and Oil and Grease, CES will send offsite to a commercial laboratory a sample to determine these concentrations. This will be prior to acceptance. The generator will be responsible for the cost of the analysis.

EPAHO107000324

CES Environmental Services, Inc.

4904 Griggs Road
Houston, TX 77021
Tel. (713) 676-1460
Fax. (713) 676-1676

To: Gary Brauckman
Cc: Gary Lenertz, Bo Cumberland

Date: 12/13/07

From: Miles Root

Lab Memo: 07-014

Subject: **Coastal Chemical NSPEC – Eval #1207-10**

A sample from Coastal Chemical NSPEC at Kinder Morgan has been evaluated for processing at our plant. This sample is evaluation #1207-10 and has a potential receipt of approximately 11,000 gallons. The sample comes from a process of pressure testing pipelines. Based upon test results, this stream can be successfully processed in our facility. Pricing should be at least 16 cents/gallon to cover TOC surcharges.

Observations/Testing

This sample treats best after being heated and heating is recommended for ease of solids formation. When blended with other water this requirement is not necessary because of the dilution factor. The TOC on the treated water is 17,715 mg/L, pH of the stream is 5.0, specific gravity is 1.015 and the flash point is greater than 140F. The sample is green in color and remains green after chemical treatment. The sample contains a trace of solids that are not an issue in its treatment.