Environmental Operations, Inc.

September 16, 2008

Ms. Stephanie Doolan
Project Manager
U.S. Environmental Protection Agency, Region 7
ART Division / RCRA Corrective Action
901 North 5th Street
Kansas City, Kansas 66101-2907

RE: Interim Measures Work Plan, QAPP, and SSHP
Solutia – John F. Queeny Plant
St. Louis, Missouri
EPA ID No. MOD 004 954 111

Dear Ms. Doolan:

This letter accompanies the delivery of the *Interim Measures Work Plan* (IMWP) for the Former Solutia John F. Queeny Plant to USEPA. Also accompanying this letter are the *Quality Assurance Project Plan* and the *Site-Specific Safety and Health Plan and Emergency Response Plan*. EOI prepared the IMWP based on discussions with USEPA, and we anticipate that the activities outlined in the IMWP are consistent with these discussions.

If you have any questions or concerns related to your review of the above documents, please let me know. I can be reached by phone at (314) 480-4694, or via email at markun@environmentalops.com . We look forward to getting started with the interim measures after your review is completed.

Respectfully submitted,

Mark R Underwood

Mark R Underwood / Project Manager
Environmental Operations, Inc

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Environmental Operations, Inc.

SITE-SPECIFIC SAFETY AND HEALTH PLAN AND EMERGENCY RESPONSE PLAN

Former Solutia Queeny Plant
Saint Louis, Missouri

August 2008

EOI Project 2950

Prepared by and for:

Environmental Operations, Inc.
1530 SOUTH SECOND STREET
SAINT LOUIS, MISSOURI 63104

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A. Material Safety Data Sheets

B. Hospital Route Map

ENVIRONMENTAL OPERATIONS, INC.
SITE-SPECIFIC SAFETY AND HEALTH PLAN
AND EMERGENCY RESPONSE PLAN

Former Solutia Queeny Plant
Saint Louis, Missouri

PROJECT #:	2950
LOCATION:	Saint Louis, Missouri Former Solutia John F. Queeny Plant
SITE CONTACTS:	Mark Underwood – Environmental Operations, Inc. (314) 392-8131 (Cellular)
	Chad Elmore – Environmental Operations, Inc. (314) 258-2067 (Cellular)
	Matthew Robinson – Environmental Operations, Inc. (314) 241-0900 (Office) (314) 258-2068 (Cellular)
EPA Region 7 Emergency Spill	(913) 281-0991

1.0 INTRODUCTION

The health and safety protocol established in this plan is based on Environmental Operations, Inc. (EOI) Health and Safety Policies and Procedures for asbestos abatement, demolition of tanks, demolition of associated piping, demolition of building's, remedial activities and the chemical and physical hazards known or anticipated to be present at the Former Solutia Queeny Plant (the Queeny Plant, and also the Site) (Figure 1). The following Site-Specific Safety and Health Plan (SSHP) and Emergency Response Plan (ERP) are intended solely for use during the proposed activities described in the contract documents and the Interim Measure Work Plan (IMWP) (EOI, 2008). Specifications herein are subject to review and revision based on actual conditions encountered in the field during remedial activities.

1.1 SITE DESCRIPTION

The Queeny Plant is located in the western portion of the Cahokia, Illinois, U.S. Geological Survey (USGS) topographic quadrangle (Figure 2-1). The plant is located on the west bank of the Mississippi River at River Mile 178. The plant currently occupies roughly 38 acres; of this, approximately 36 acres are contiguous and were formerly used for manufacturing. The remaining approximately 2 acres comprise one property that is located south of the main plant property northeast of the intersection of Victor Street and First Street, along the east side of the railroad tracks.

On July 13, 2008, SWH Industries completed the purchase of the Queeny Plant from Solutia, and EOI assumed the environmental liabilities and obligations for the property. The Queeny Plant is located in an area of Saint Louis that is zoned and developed for industrial and commercial uses. The property was purchased with the intention to redevelop for commercial and light industrial use. The site is proximate to a major transportation corridor provided by the Mississippi River, several interstate highways, and a large railroad center. **Figure 2** is an aerial photograph that shows the Queeny Plant in relation to the surrounding area. Areas surrounding the facility are used for industrial and commercial operations.

Chemical and physical hazards anticipated at the Site include volatile organic compounds (VOCs), pesticides, polychlorinated biphenyls (PCBs), inorganic compounds, nuisance dust (during soil removal activities and demolition activities), asbestos containing materials (ACMs), drilling and geoprobe activities, injection of oxygenate and related chemical, hot and cold weather, and noise exposure.

1.2 SCOPE OF WORK

Verification will be made to determine that all underground utilities are marked prior to any intrusive activity. The work at the Queeny Plant will consist of the excavation, transport, and proper disposal of PCB-impacted soil, and remediation of groundwater source areas through injection of liquid chemical reagents into the shallow subsurface and groundwater zones. Trucks and heavy excavation equipment will be utilized for the actual soil remediation and transport. Geoprobe and drill rigs will be utilized to install an injection system for groundwater remediation in three separate source areas. Injection of one or more chemical reagents will be performed to destroy the source of groundwater contamination in each of the plume source areas.

Level D or Modified Level D type personal protection equipment (PPE) shall be worn during the project activities, unless otherwise determined (Section 4).

Asbestos Abatement

Asbestos abatement at the site will consist of the removal and disposal of friable and non-friable asbestos containing materials located in the interior and exterior of the buildings at the Solutia Queeny Plant located at 2nd and Russell Street in St. Louis, Missouri. Asbestos containing materials consist of floor tile and mastic, asbestos pipe insulation, asbestos tank insulation, and asbestos transite panels. All removal procedures will be in accordance with the St. Louis City Health Division Department of Air Pollution Control.

Demolition of Buildings

Work will also consist of the demolition of the buildings, associated pipe, and tanks formerly known as the Solutia Queeny Plant located at 2nd and Russell Street in St. Louis, Missouri using heavy equipment (Excavator with shear).

2.0 KEY PERSONNEL

PROJECT MANAGER: Mark Underwood

CERTIFIED INDUSTRIAL HYGIENIST: Donn Haines

HEALTH & SAFETY MANAGER: Reid Hartmann

SITE SAFETY & HEALTH OFFICER: Matt Lewis

MEDICAL CONSULTANT: Barnes Care Medical Facilities

SITE CONSTRUCTION MANAGER: Chad Elmore

SITE SUPERVISOR: Kevin Schoenborn

HEAVY EQUIPMENT OPERATOR: To Be Determined

2.1 ROLES

Project Manager
Primarily responsible for the fulfillment of the scope of work, and for communication with the client and regulatory agencies.

Certified Industrial Hygienist\Health & Safety Manager
The Certified Industrial Hygienist\Health & Safety Manager's (CIH/HSM) responsibilities include the review of potential occupational health hazards that should be further investigated such as exposure to potentially harmful chemicals that may have been uncovered that were otherwise not anticipated at the Site. Other responsibilities include the supervision of the development, implementation and enforcement of the SSHP.

It is anticipated that this project will not require the on-site presence of the CIH/HSM. However, the CIH/HSM will be contacted if additional health and safety support is needed.

Site Safety & Health Officer
The site safety and health officer (SSHO) will report directly to the CIH/HSM and advise the Site Construction Manager on matters concerning the health and safety of employees. The SSHO will be on-site during all project activities.

The SSHO is responsible for maintaining proper medical surveillance, providing employee hazard communication information, training employees in safe operating procedures, supervision of excavation, the use of respiratory protection, and evaluation of the potential for employee exposure to environmental stresses including but not limited to:

- Air contaminants (gases, vapors, dusts, fumes, etc.)
- Explosive atmospheres

- Temperature extremes
- Hazardous noise levels
- Earth movement from excavations
- Exposure to chemicals (oxygenates)
- Drilling activities

The SSHO is also responsible for recommending the proper engineering and administrative controls to reduce these exposures and for advising the Project Manager on the selection of personal protective equipment and other matters concerning the health and safety of employees, as well as the public.

Medical Consultant

The medical consultant for this project is Dr. Karen Shockley. She is a licensed physician practicing occupational medicine. Dr. Shockley and the Barnes Care physicians have experience in the field of occupational medicine and is familiar with EOI personnel and the potential chemical and physical hazards encountered during environmental remediation.

Site Construction Manager

Responsible for maintenance of site security, supervision of technicians, implementation of health and safety procedures, decontamination and sampling procedures.

Site Supervisor

Responsible for maintenance of site security, supervision of technicians, oversight of health and safety procedures, decontamination and sample procedure.

Heavy Equipment Operator

Responsible for the operations of self propelled mechanized machinery used for excavation of soil, and removal of UST on site. The heavy equipment operator may also act as a site technician when not engaged in heavy equipment operation.

Training

All of Environmental Operations, Inc.'s site remediation workers will, at a minimum, have received and are currently certified in Occupational Safety and Health Administration (OSHA) 40-Hour Hazardous Waste Site Operations and Emergency Response Training (HAZWOPER).

All of Environmental Operations, Inc.'s asbestos workers will, at a minimum, have received training in accordance with AHERA Regulation Title 40 CFR, Part 763, Sub-part E., Appendix C.

All of Environmental Operations, Inc. laborers will, at a minimum, have received and be currently certified in Occupational Safety and Health Administration (OSHA) 10-Hour Training course. The Operator's on site will have the basic safety orientation training provided by the HSM, the Remediation Manager, or the Site Supervisor, and will be familiar with the hazards associated at this site.

3.0 HAZARD EVALUATION

Table 1
Anticipated Hazards
Remedial Activities

ACTIVITY	POTENTIAL HAZARD	PRECAUTION
Site preparation; Set up work zones; and Decontamination zones	Physical injury Temperature Extremes Chemical exposure	Enforce all Standard Operating Procedures (SOPs) Administrative controls (frequent breaks, provide warm or cold fluids, etc.) SSHP will monitor workers to determine if heat stress is a concern. Don appropriate PPE (Level D/Modified D)
Secure site	Physical injury	Enforce all SOPs; site fencing
Soil excavation and transport for off-site disposal	Physical injury Contact w/ contaminated soil and groundwater	Enforce all SOPs Don appropriate PPE (Level D); Conduct real time air monitoring for organic compounds and dust levels
Soil confirmation sampling	Contact w/ contaminated soil	Don appropriate PPE (Level D)
Decon equipment and personnel	Contact w/ contaminated soil or "source" material	Don appropriate PPE (Level D)
Installation of monitoring wells	Physical injury	Don appropriate PPE (Level D)
Installation of temporary injection points	Physical injury	Don appropriate PPE (Level D)
Sampling of monitoring wells	Contact w/ contaminated groundwater	Don appropriate PPE (Level D)
Injection of chemical reagents	Contact w/ chemically reactive liquids	Don appropriate PPE (Level D) and shield face and eyes

Table 2
Anticipated Hazards
Asbestos Abatement

ACTIVITY	POTENTIAL HAZARD	PRECAUTION
Set up work areas to include temporary enclosures and Decontamination Units	Physical Injury – Slips, Trips, and Falls	Ensure ladders and/or scaffolding are properly used. Pre-clean areas that may contain slip hazards and remove or isolate general obstructions such as general construction debris.

	Chemical/Physical Hazard Exposure	Don appropriate PPE (Level C). Conduct air sampling to evaluate personal and ambient air concentrations of asbestos. May be able to downgrade PPE if sample results are low. Provide fan units, negative air machines, or use of water to suppress ambient dust levels.
Removal of Asbestos Containing Building Materials (transite, TSI pipe insulation, tank insulation, floor tile & mastic, etc.) , (See Section 5.0 for complete abatement procedures)	Physical injury – Slips, Trips, and Falls	Enforce all SOPs. Ensure ladders and/or scaffolding are properly used.
	Exposure to Asbestos	Don appropriate PPE and ensure Work Practices, Engineering Controls, and Wet Methods for abatement are provided *(Level C or Modified Level C)*; Conduct air sampling to evaluate personal and ambient air concentrations of asbestos.
	Exposure to Biological Hazards	Enforce all SOPs and Wear Proper PPE
	Electrical	lockout/tagout; use properly insulated and grounded power cords
	Fire and Explosion	Maintain fire extinguishers and have local fire department contacts posted. Enforce all SOPs.
	Temperature Extremes	Administrative controls (frequent breaks, provide hot or cold fluids) SSHP will monitor workers to determine if heat stress is a concern.
Load Out of Asbestos Debris	Physical injury – Sprains and Strains	Obtain assistance in lifting overfilled bags of ACM. Use a cart or shut to transfer ACM bags to the lined dumpsters.
	Contact w/ contaminated materials	Don appropriate PPE (Level C) Conduct area and personal air sampling for asbestos. Ensure ACM debris is *adequately bagged or double bagged* or wrapped in double 6-mil plastic.
Secure Site	Unauthorized Entry	Ensure temporary enclosures and barriers are adequately in place

	Physical Injury	with proper signs posted. Enforce all SOP's

Table 3
Anticipated Hazards
Demolition of Structures

ACTIVITY	POTENTIAL HAZARD	PRECAUTION
Set up work zones	Physical Injury Heat stress	Ensure all Utilities are disconnected, isolate work area with barrier tape. Administrative controls (frequent breaks, fluids, etc.)
Pre-demolition Preparation	Physical Injury Chemical Hazards	Check building for potential fire hazards, or other potential electrical hazards Determine during walkthrough if all PCB's, fluorescent light tubes, mercury thermostats, freon, and other chemicals are properly removed from the building; determine PPE requirements (initially Level D) and safety equipment inventory Check to determine if all electric, gas, water, steam, sewer, and other service lines need to be shut off, capped, or otherwise controlled, at or outside the building (contact with proper utility company's) Temporarily relocate and protect any power, water or other utilities during demolition and inform workers as to their locations
Demolition and Waste Hauling Activities	Physical Injury Chemical Hazards Exposure to Dusts/Fumes	Demarcate area and enclose to prevent unauthorized personnel to enter demolition area; post all warning signs around perimeter Use adequate water to keep dust levels to a minimum; wear appropriate PPE (Level D or Level C) Ensure water is used to keep

		visible dust levels to a minimum.
	Fire and Explosion	Maintain fire extinguishers and have local fire department contacts posted. Ensure adequate fire watch is available and Hot Work permits are filled out.
Onsite stockpiling of overburden soil & concrete, excavation	Physical Injury	Ensure communication is maintained between heavy equipment operators and workers at the site.
	Chemical Exposure	Don appropriate PPE (Level D/Modified Level D). Conduct air sampling to evaluate personal and ambient air concentrations of nuisance dust and organic vapors.
Miscellaneous surface debris segregation	Physical Injury	Ensure communication is maintained when materials are hauled off site.
	Chemical Exposure	Don appropriate PPE (Level D/Moderate Level D). Avoid skin contact with potentially hazardous chemicals.
Secure site, Demolition	Physical injury	Enforce all SOP's

Please note: *EOI considers the sewer trench box to be a confined space, if any EOI employee enters the sewer trench box all OSHA Confined Space Entry requirements will be followed, including the utilization of an emergency retrieval system. All entrants will be suited in harnesses and emergency respiratory equipment will be available (See Section 16.0).*

3.1 EXCAVATION ACTIVITIES

Excavation will be required in the VV Building area to remove soil that is impacted with PCBs. During excavation activities, the subsurface is penetrated. Contaminated soil and possibly groundwater may be brought to the surface, creating a potential for exposure through skin contact and inhalation of vapors. The open excavation also creates a conduit for vapors to be released to the atmosphere. Air monitoring with a photoionization detector (PID) is required to determine if additional protective equipment is needed on the site.

In addition to chemical risks, the risk of digging into a buried utility, such as a gas or electric line is always present. Risks of injury associated with excavation activities also are a constant factor. Each of the recognized environmental conditions where excavation is scheduled will be checked for potential physical hazards such as underground and/or above ground utilities or other installations.

3.2 INJECTION SYSTEM INSTALLATION AND INJECTION ACTIVITIES

Groundwater contamination sources areas consist of areas where light non-aqueous phase liquids (LNAPL), dense non-aqueous phase liquids (DNAPL), and residual LNAPL and DNAPL occur. There are three source areas, and the constituents of concern in each area are as follows:

- Former FF Building Area. This area formerly contained LNAPL, consisting primarily of chlorobenzene and toluene, and DNAPL consisting primarily of tetrachoroethene (PCE). Recent gauging performed during the due diligence period in March 2008 indicated that there is no detectible LNAPL or DNAPL.
- Former Acetanilides Production Area. This area formerly contained LNAPL consisting primarily chlorobenzene and the pesticide alachlor (which also went by the trade name Lasso). Recent gauging performed during the due diligence period in March 2008 indicated that there is no detectible LNAPL.
- Former Bulk Chemical Storage Area (FBSCA). This area formerly contained LNAPL consisting of various chemical and fuels and DNAPL consisting primarily of tetrachoroethene (PCE). Recent gauging performed during the due diligence period in March 2008 indicated that there were a few localized areas showing detectible LNAPL.

Contaminated soil and groundwater may be brought to the surface during drilling and geoprobe activities and sampling activities, creating a potential for exposure through skin contact and inhalation of vapors. The exposed soil and groundwater (possibly with LNAPL) also creates a conduit for vapors to be released to the atmosphere. Air monitoring with a PID is required to determine if additional protective equipment is needed on the site.

In addition to chemical risks, the risk of drilling into a buried utility, such as a gas or electric line is always present. Risks of injury associated with excavation activities also are a constant factor. Each of the recognized environmental conditions where drilling and geoprobe work is scheduled will be checked for potential physical hazards such as underground and/or above ground utilities or other installations.

During injection activities, there is the potential exposure to liquids that may include oxygenates such as peroxide. Appropriate clothing, eye and face protection, and hand protection will be worn to prevent potential exposure to the potentially chemically reactive liquids.

3.3 DEMOLITION ACTIVITIES

The demolition activities at the site may result in the release of dust and chemical contaminants. The SHSO will ensure that adequate water is used to maintain dust levels to a minimum. Site demarcation shall be enforced to minimize the potential for physical injuries.

Site demolition may result in the release of dust and mineral fibers within the building interior. The SSHO will sample for airborne dust and fibers during all phases of demolition activities.

Sampling will be conducted using either direct read instrumentation of high/low volume sampling pumps in line with 25-millimeter sampling cassettes. The filter in the cassettes will be analyzed for respirable dust and possibly percent and concentrations of silica using the National Institute for Occupational Safety and Health (NIOSH) Methods. Site demarcation, physical barriers, and wet methods will be constructed to minimize the potential release of fibers to the ambient air.

4.0 PERSONAL PROTECTIVE EQUIPMENT

Based on the evaluation of known and potential hazards, the following levels of personal protective equipment have been assigned.

Specific PPE for each level of protection:

Level D:
Hard Hat
Steel-toed boots
Safety glasses
Work Uniform (no loose fitting clothing)
Work Gloves (nitrile)
High-visibility clothing or vest

Modified Level D:
Hard Hat
Steel-toed boots
Safety glasses
Work Uniform (no loose fitting clothing)
Work Gloves (nitrile)
Disposable boot covers
Disposable hooded protective clothing (where appropriate, see Hazard Assessment, Section B)
High-visibility clothing or vest

Level C:
Hard Hat
Steel-toed boots
Safety glasses
Work Gloves (nitrile)
Disposable boot covers
Disposable hooded protective clothing
Respiratory Protection (Neg. pressure, half-face dual cartridge respirator with approved filters)

Modified Level C:
Hard Hat
Steel-toed boots
Safety glasses
Work Gloves (nitrile)
Disposable boot covers
Disposable hooded protective clothing (Saranex Disposable Suit)

Respiratory Protection (*Neg. pressure or PAPR, full-face dual cartridge respirator
with approved filters)

Level B: Self contained breathing apparatus (SCBA) or constant pressure supplied air respirator with 5-min. escape pack
Disposable hooded chemical resistant clothing
Disposable chemical resistant gloves
Two pair of inner disposable latex gloves
Disposable boot covers
Hard hat, if operating heavy equipment nearby
Tape seams

Please Note: The contractor will strictly enforce all requirements for PPE. This strict enforcement will also apply to all visitors on the site.

Any personnel that uses either a full face or PAPR type respirators will need to be quantitatively fit tested by either the HSM, CIH, or an EOI competent person.

If levels listed in Section 16.0 are not exceeded, personnel will conduct work in Level D for excavation activities. Modified Level D will be used when there is contact with source material. If action levels are exceeded, mitigation strategies will be developed, or the work will be conducted in Level C as appropriate. This decision will be made by the Project Manager with input from the CIH/HSM and the Site Construction Manager. Environmental monitoring will be conducted throughout the day as discussed in Section 16.0.

5.0 PERSONAL PRECAUTIONS

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated as contaminated.

- Hands and face must be thoroughly washed upon leaving the work area.

- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garment is removed.

- No facial hair which interferes with a satisfactory fit of the mask-to-face seal is allowed on personnel required to wear respirators.

- Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, leachate, discolored surfaces, kneel on ground, lean, sit, or place equipment on drums, containers, or the ground.

- Medicine and alcohol can potentiate the effects form exposure to toxic chemicals. Prescribed drugs should not be taken by personnel at hazardous waste operations where the

potential for absorption, inhalation, or ingestion of toxic substances exists unless specifically approved by a qualified physician. Alcoholic beverage intake should be avoided.

- All personnel must be familiar with standard operating safety procedures and any additional instructions and information contained in the SSHP.

- Contact lenses cannot be worn when respirator protection is required or when the hazard of a splash exists.

- Personnel will be aware of symptoms for toxic chemicals on site and for cold stress.

- Respirators shall be cleaned and disinfected after each day's use or more often if necessary.

- Prior to donning, respirators will be inspected for worn or deteriorated parts. Emergency respirators or self-contained devices will be inspected at least once a month and after each use.

ASBESTOS OPERATIONS:

Asbestos Glove Bag Procedures

- After pre-cleaning operations, place a layer of 6-mil clean plastic on the floor directly under the material to be removed.

- Place negative air machine(s) inside the general work area where glove bag removal will be performed.

- Carefully install glove bag to completely cover the pipe. The glove bag is attached to the pipe by folding the open edges together and securely sealing them with tape. All openings of the glove bag must be sealed with duct tape or equivalent material. The bottom seam of the glove bag must also be sealed with duct tape to prevent any leakage from the bag that may result from a defect in the bottom seal. The pipe insulation diameter worked shall not exceed one half the bag working length above the attached gloves.

- The integrity of the glove bag seal shall be checked by performing a smoke test. Any signs of leakage will be taped airtight.

- Thoroughly wet the pipe with a wetting agent that is applied through the pre-cut port provided in the glove bag or apply through a small hole in the bag.

- Once the material is thoroughly wetted, remove the pipe insulation material. Avoid creating dust.

- After removal of the layer of pipe insulation, the pipe surface from which asbestos has been removed must be thoroughly cleaned with a wire brush and wet wiped using wetting agents

until all visible material has been removed.

- Any asbestos containing insulation edges that have been exposed as a result of the removal or maintenance activity must be encapsulated with bridging encapsulant to ensure the edges do not release asbestos fibers. **Under no circumstances will the same glove be used for removal of subsequent sections of pipe insulation.**

- When the asbestos removal and encapsulation have been completed, a vacuum hose from a HEPA filtered vacuum shall be inserted into the glove bag through the part to remove any air in the bag that may contain asbestos fibers. When the air has been removed from the bag, the bag should be squeezed tightly (as close to the top as possible), twisted and sealed with tape, to keep the asbestos materials safely in the bottom of the bag. The HEPA vacuum can then be removed from the bag and the glove bag itself can be removed from the whole area and placed into a second labeled 6-mil polyethylene bag.

- The contractor shall provide a minimum of air purifying respirators with dual (HEPA) filters and in compliance with OSHA (29 CFR 1910.1101) and EPA (40 CFR 763, Subpart IV).

- Full personal protective equipment which includes approved disposable clothing, which covers the head, torso, arms, legs, and feet shall also be provided.

Floor Tile Removal Method

- Floor tile and mastic shall be removed as non-friable material. Removal shall be performed intact by thoroughly wetting prior to removal and maintaining in a wet condition by misting with amended water during removal or by heat removal methods.

- Removal of adhesive mastic shall be conducted using an approved low odor mastic remover solvent. Splash guards and critical barriers on openings (i.e. broken windows) to the exterior shall be installed prior to mastic removal. Adequate Negative pressure shall be established to provide 4-6 air changes per hour inside the work area.

Wrap and Cut Removal Methods

- The immediate area should be demarcated with barrier tape and signs posted.

- A remote decontamination unit should be provided within the demarcated area.

- Glove bag sections (see Glovebag Removal Methods) of pipe runs that will need to be cut (typically 6-8 feet lengths for large diameter pipe)

- Wrap the remaining sections of pipe insulation with 6-mil plastic.

- Cut the pipe at the glove bagged sections using approved cutting tools.

- Place all material and equipment through the equipment decon.

- After all piping is removed; clean any remaining debris that may have fallen onto the drop cloths below using a High Efficiency Particulate Air (HEPA) vacuum cleaner.

- Decontamination of personnel can be by double suiting and removing outer suit in decon unit.

Transite Panel Removal

- Removal of asbestos roofing will be performed during the demolition process and placed into lined dumpsters for special waste disposal.

- Transite Panels shall be removed with minimal breakage, placed into disposal bags or wrapped with two layers of 6-mil polyethylene and labeled for disposal.

The contractors SOPs will be followed unless more stringent project and site specific operating procedures are developed and implemented into additional SSHP sections.

DEMOLITION AND GENERAL PROCEDURES:

- Demolition of the buildings will be conducted in accordance with the engineering survey.

- All personnel going on-site must be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures, and communication.

- Any required respiratory protective devices and clothing must be worn by all personnel going into areas designated for wearing protective equipment.

- Personnel onsite must use the buddy system when any individual has potential for exposure. As a minimum, a third person, suitably equipped as a safety back-up is required during extremely hazardous entries.

- Visual contact must be maintained between pairs on-site and safety personnel.

- During continual operations, on-site workers act as safety backup to each other. Off-site personnel provide emergency assistance.

- Personnel should practice unfamiliar operations prior to doing actual procedures.

- Entrance and exit locations must be designated and emergency escape routes delineated. Warning signals for site evacuation must be established.

- Communications using radios, hand signals, or other means must be maintained between initial entry members at all times. Emergency communication should be prearranged in case of radio failure, necessity for evacuation of site or other reasons.

- Personnel and equipment in any contaminated areas should be minimized, consistent with effective site operations.

- Work areas for various operational activities must be established.

- Procedures for leaving a contaminated area must be planned and implemented prior to going on-site. Work areas and decontamination procedures must be established based on expected site conditions.

- Frequent and regular inspections of site operations will be conducted to insure compliance with the SSHP. If any changes in operation occur, the SSHP must be modified to reflect changes.

- All electrical equipment (power tools, extension cords, instruments, radios, etc.) shall conform to the section anticipated for OSHA 29 CFR 1926.404 Subpart K.

- Fire prevention and protection (appropriate signs for flammable liquids, smoking areas, storage areas of combustible or flammable materials, etc.) shall be in accordance with OSHA 29 CFR 1926.150 Subpart F.

The contractors SOPs will be followed unless more stringent project and site specific operating procedures are developed and implemented into additional SSHP sections.

OPERATIONS:

- All personnel going on-site must be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures, and communication.

- Daily tool box training summarizing the day's events and potential hazards will be held first thing in the morning.

- Air monitoring results will be posted daily.

- Any required respiratory protective devices and clothing must be worn by all personnel going into areas designated for wearing protective equipment.

- Personnel on-site must use the buddy system when any individual has potential for exposure in the exclusion zone. As a minimum, a third person, suitably equipped as a safety back-up is required during extremely hazardous entries.

- Visual contact must be maintained between pairs on-site and safety personnel.

- During continual operations, on-site workers act as safety backup to each other. Off-site personnel provide emergency assistance.

- Personnel should practice unfamiliar operations prior to doing actual procedures.

- Entrance and exit locations must be designated and emergency escape routes delineated. Warning signals for site evacuation must be established.

- Communications using radios, hand signals, or other means must be maintained between initial entry members at all times. Emergency communication should be prearranged in case of radio failure, necessity for evacuation of site or other reasons.

- Wind indicators visible to all personnel should be strategically located throughout the Site.

- Personnel and equipment in the contaminated area should be minimized, consistent with effective site operations.

- Work areas for various operational activities must be established. At a minimum, the Exclusion Zone (EZ), Contamination Reduction Zone (CRZ), and Support Zone will be established, especially in the excavation areas. Entry of personnel into and out of the EZ shall be through the CRZ, specifically through the decontamination trailer.

- Procedures for leaving a contaminated area must be planned and implemented prior to going on-site. Work areas and decontamination procedures must be established based on expected site conditions.

- Frequent and regular inspections of site operations will be conducted to insure compliance with the SSHP. If any changes in operation occur, the SSHP must be modified to reflect changes.

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EOI's SOPs will be followed unless more stringent project and site specific operating procedures are developed and implemented into additional SSHP sections.

5.1 COMMUNICATION PROCEDURES

An on-site mobile telephone unit will be used when an accessible permanent telephone system is not located within 50 yards of the command post.

The SSHO will be responsible for notifying all emergency facilities in the case of an emergency.

The following standard hand signals will be used in case of failure of radio communications:

- Hand gripping throat.....Out of air, can't breath.
- Grip partner's wrists or both hands around waist.....Leave area immediately.
- Hands on top of head.....Needs assistance.
- Thumbs up.....Okay, I'm all right, I understand.
- Thumbs down.....No, negative.

Radio communications should be re-established as soon as possible.

6.0 EMPLOYEE, MANAGER, AND VISITOR TRAINING

The following training shall be provided prior to project start up for personnel working on-site:

- Josh Craig will be responsible for site safety and health.
- Prior to the start of work activities each day, a site safety meeting will be conducted by the SSHO and the Site Construction Manager. Items to be discussed will be Hazard Evaluation/Standard Operating Procedures (Section 3.0), Personal Protective Equipment (Section 4.0), and Personal Precaution (Section 5.0).
- Other training requirements will include work practices by which the employees can minimize risks, safe use of engineering controls and equipment on site, and medical surveillance requirements.
- Training requirements for remediation work will include 40 hours of instructional training in hazardous waste operations and three days of actual field site experience on remediation projects.

  All Environmental Operations, Inc.'s remediation personnel participating in this project will have received the 40-Hour Hazardous Materials initial training course per 29 CFR 1926.120.

6.1 VISITOR TRAINING

Before an official visitor enters the Exclusion Zone or the Contamination Reduction Zone, the visitor shall present documentation that he/she has received health and safety training and medical surveillance examination/certification equivalent to that required for on-site work. Exceptions for limited on-site inspection by visitors will be decided on a case-by-case basis. Approval must be granted by EOI. Any visitors to the Site will sign-in at the site entrance and will be escorted at all times by trained site personnel. In addition, all visitors will be required to review the site safety and health plan and participate in a site safety meeting conducted by the SSHO. This training will be equivalent to the on-site workers training.

7.0 MEDICAL SURVEILLANCE REQUIREMENTS

Environmental Operations, Inc.'s employees will be given pre-employment examinations and annual medical surveillance as follows:

- Physical (including completion and review of occupational history forms);
- Blood Test – CBC & CMP;
- Pre Employment Drug Screen;
- Audiogram;
- Pulmonary Function Test (fitness for duty); and
- An immediate examination will be conducted if any signs or symptoms related to the materials handled during this project are developed by any of the on-site employees.

All EOI's on-site employees and visitors participating in this project will comply with the medical surveillance requirements.

8.0 PERSONNEL AND EQUIPMENT DECONTAMINATION PROCEDURES

Asbestos Abatement Decontamination Procedures

A dry decontamination will be the method used during the non-friable abatement activities. A dry decontamination consists of personnel removing contaminated clothing or PPE in the decontamination area. A three stage decontamination unit equipped with a shower will be used for friable asbestos asbestos abatement activities.

Remediation Decontamination Procedures

A dry decontamination will be the method used during the remediation activities. A dry decontamination consists of personnel removing contaminated clothing or PPE in the decontamination area.

8.1 HEAVY EQUIPMENT DECONTAMINATION

If any piece of heavy equipment is contaminated during usage, it will be cleaned manually with a power washer and/or by hand. The residual material and water will be collected by the use of poly and a catch basin beneath the piece of equipment.

9.0 SITE HOUSEKEEPING

At all times EOI will maintain the following conditions:

- All equipment and materials shall be stored in a neat and orderly manner so as not to interfere with the safe performance of activities.

- All site security measures such as barricades and fencing will be inspected on a daily basis, if required.

- All trash and debris will immediately be stored in proper containers.

- Should soil fall outside the CRZ, it will be removed using shovel and hand broom.

- Unnecessary equipment and materials will be removed from work zones and properly stored within EOI's vehicles during work hours.

- All material and equipment will be secured at the work site and stored in designated areas.

10.0 MECHANICAL EQUIPMENT INSPECTION

- Mechanical equipment will be inspected prior to being brought on site for safe and proper operation per manufacturer and regulatory requirements.

- Mechanical equipment will be inspected prior to the start of each work day.

- Should any mechanical equipment fail inspection it will be removed from service.

11.0 SANITATION

Toilet facilities will be available for the use of all site personnel.

The contractor shall insure that all on-site personnel have ready access to soap and clean water, or other suitable materials for washing hands and face before exiting contaminated areas and to toilet facilities. Additionally, potable water shall be maintained for drinking purposes. These facilities shall be maintained adjacent to the work zone, and not within it.

12.0 DAILY SAFETY INSPECTIONS

In conjunction with the daily site safety meeting, the Supervisor and SSHO will perform a site walk through to assess site safety conditions.

At all times the Project Manager, Supervisor, Foreman, and the SSHO will be observant of site safety issues and compliance.

13.0 SITE SAFETY MEETINGS

Prior to the commencement of site activities, EOI's SSHO will conduct a site safety meeting with all personnel who will be present during site activities. This meeting will consist of a comprehensive review of the project scope of activities, the SSHP and accident reporting.

In addition, each morning prior to commencement of site activities, EOI's SSHO will conduct an abbreviated site safety meeting to include a description of site tasks, site specific conditions, site orientation and emergency procedures.

14.0 GENERAL SITE SAFETY CONSIDERATIONS

Overhead Utilities

Clearance to adjacent overhead transmission and distribution electrical lines shall be sufficient for the movement of vehicles and operation of construction equipment. The requirements stated

in EM 385-1-1, 29 CFR 1926, and the National Electric Safety Code shall be followed by all site personnel.

Temperature Extremes

EOI shall provide all project personnel with the necessary training and monitoring designed to prevent personal injury due to temperature stress, as dictated by weather conditions. All field personnel shall have access to remote areas of the Site for breaks. The break areas shall be situated so that personnel may remove the chemical protective clothing, rest in a protected area, and drink cool or warm fluids (as the weather dictates).

In the event an employee begins to manifest signs of temperature stress the SSHO will monitor the physiological conditions of the employee and determine what steps should be taken to prevent an escalation of the symptoms.

Electrical Safety

All electrical installations for this project shall conform to the National Electrical Code, the National Electrical Safety Code, and Section 15 of EM 385-1-1. Electrical equipment to be used on this project shall conform to Section 16 EM 385-1-1. Air monitoring and sampling equipment, if necessary, shall be rated intrinsically safe for Class I, Division 1, Groups A, B, C, and D areas.

Fire Extinguishers and First Aid Kits, Emergency Eyewash

At all times EOI will ensure that a minimum of 2-ABC CO_2 fire extinguishers is maintained on-site. There shall also be at least one well-stocked first aid kit on site and a portable eyewash station capable of providing 15 minutes of continuous washing.

15.0 CONSTRUCTION AND EXCAVATION SAFETY

Excavation work performed on-site shall at a minimum meet the project specifications. If excavations are sloped rather than shored, continuously sloping to a 2 to 1 (horizontal to vertical) angle of repose shall be completed. Maintenance of the stability of all cut slopes and for the covering of all slopes with 10-mil thick polyethylene sheeting in a condition which prevents water from eroding slopes will be provided. Upon approval by the Project Manager, EOI may elect to test and categorize the soils to determine an angle of repose, as indicated below.

APPROXIMATE ANGLE OF REPOSE
For sloping sides of excavations

TYPE OF SOIL	ANGLE OF REPOSE
Stable Rock	Vertical (90°)
Type A (1)	3/4:1 (53°)
Type B (2)	1:1 (45°)
Type C (3)	1 1/2:1 (34°)

NOTES:

1) Type A means cohesive soils with an unconfined compressive strength of 1.5 ton per square foot (tsf). Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam, and in some cases silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are considered Type A. However, NO soil is Type A if the soil is fissured; or the soil is subject to vibration from heavy traffic, pile driving, or similar effects; or the soil had been previously disturbed; or the soil is part of a sloped layered system where the layers dip into the excavation on a flop of four horizontal to one vertical (4:1) or greater; or the material is subject to other factors that would be required to be classified as less stable material.

2) Type B means cohesive soils with an unconfined compressive strength greater than 0.5 tsf but less than 1.5 tsf; or granular cohesionless soils including angular gravel (similar to crushed rock), silt, silt loam, sandy loam and in some cases silty clay loam and sandy clay loam; or previously disturbed soils except those which would otherwise be classed as Type C soils; or soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or dry rock that is not stable; or material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4:1), but only if the material would otherwise be classified as Type B.

3) Type C means cohesive soils with an unconfined compressive strength of 0.5 tsf or less; granular soils including gravel, sand, and loamy sand; or submerged soil or soil from which water is freely seeping; or submerged rock that is not stable; or material in a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4:1).

NO ONE WILL BE ALLOWED TO ENTER THE EXCAVATION AREA FOR ANY REASON UNLESS THE EXCAVATION IS PROPERLY SLOPED OR SHORED.

16.0 CONFINED SPACE ENTRY PROCEDURES

Environmental Operations, Inc. considers the sewer trench box on-site to be confined space and all OSHA confined space entry procedures shall be followed. OSHA defines a confined space as a space that is large enough and so configured that an employee can bodily enter and perform assigned work but has limited or restricted room for entry or exit and is not designed for continuous human occupation. For this project, all chases, areas above ceilings, tunnels, and vaults entered will be regarded, as permit required confined space.

Warning Signs will be posted at all entrances noting that special permits are required to enter the confined space.

Absolutely no personnel shall be permitted to enter the designated confined spaces as a part of this project at any time, except as outlined in this section. The following requirements for entry into the confined spaces shall be enforced by Environmental Operations, Inc.'s Site Safety Officer:

Level B protective equipment, as outlined in Section 4: PERSONAL PROTECTIVE EQUIPMENT (PPE), as well as a safety harness and lifeline shall be worn by all personnel entering the storage tanks. The lifeline shall be connected at all times to the personnel working within the space and to a location outside the near the standby personnel. **This procedure can be eliminated once atmospheric tests are performed and the space atmosphere is deemed non-hazardous by the HSM, CIH, or SSHO.**

Prior to removal of the entry cover, all valves, electrical controls, or other power activated devices that might affect the safety of persons entering the space will be locked, tagged, and tried. Valves will also be rendered safe by either totally disconnecting the piping, blank flanging, or using the double block and bleed system.

Combustible gas and percent oxygen (O_2) monitoring within the space shall be conducted prior to entry and continuously during work within the space. Levels above ten percent LEL or less than 19.5 percent O_2 content shall require immediate evacuation of personnel.

The combustible gas/O_2 meter will be calibrated daily before and after the work shift. The vendor of the instrument can calibrate the LEL reading.

If any one of the required tests (flammability and oxygen) is outside of the set limits (10% LEL, 19.5% oxygen), the space will be ventilated.

If the LEL cannot be brought below 10%, entry is not permitted, and an inerting process must be used.

If oxygen is above 23.5%, entry is not permitted. Additional ventilation may be needed to reduce oxygen levels to normal. Only when oxygen is reduced to normal will entry be allowed.

A fall arrest system (i.e. tripod, layard, hand wench system) will be used for confined space entry. Lines are attached to one person entering the space by D-ring to a harness. One line is secured in front of the harness and one line is secured in back of the harness, both at about shoulder level. Once in the confined space, the front line is detached.

A standby person shall be assigned to remain continuously on the outside the space being entered and to be in constant contact (visual or speech) with the workers inside. The standby person shall not have any other duties except as to serve as standby and to know who should be notified in case of an emergency. Standby personnel shall not enter a confined space in the event of an emergency until help arrives, and then only with the proper protective equipment and respirators (Level B), and lifelines. Additional Level B protection, including respiratory protection, shall be labeled and readily available on-site in the event that emergency rescue is required. This Level B ensemble shall be reserved solely for emergency rescue purposes, and be labeled as such.

Lifelines, harnesses, and hoists shall be readily available on-site in the event that emergency rescue is required.

If confined space entry is to be conducted, Environmental Operations, Inc's. SSHO will complete a confined space entry permit prior to conducting such work. Environmental Operations, Inc. shall obtain a new permit at the start of each work shift during which confined space entry will be required.

An entry permit is required for every confined space entry. The permit must contain the following information:

- The permit space to be entered
- The purpose of the entry
- The date and authorized duration of the permit
- The name and signature of all authorized entrants
- The names and signatures of all standbys (See standby)
- The names and signatures of the supervisors
- The hazards of the permit space
- The measures used to isolate or control the hazards prior to entry
- The name and phone number of rescue service or rescue procedure
- Acceptable entry conditions
- Results of initial and periodic (or continuous) tests
- Communication procedures used by the attendants and standby
- Any equipment needed to comply with this section
- Any other information needed to ensure employee safety

The permit will be posted conspicuously outside the confined space until the permit expires after each 8 hour work shift. If the confined space is vacated (at lunch, overnight) it will be barricaded to prevent entry.

A lockout/tagout system will be utilized as necessary.

17.0 ENVIRONMENTAL MONITORING

Environmental monitoring will be conducted by the SSHO or his/her designee. A photoionizaton detector (PID) will be utilized to determine the levels of organic vapors present in the soil and possibly in the groundwater. Additionally, a real time aerosol monitor will be used to determine airborne dust levels. Additional sampling methods may be conducted based on the potential hazards if the CIH deems necessary.

Action Levels:

Compound(s) of Concern	Action Levels	Level of Protection
Asbestos	Background to 0.05 f/cc	Level D
	0.05 f/cc to 0.5 f/cc	Level C
	0.5 f/cc to 2.5 f/cc	Modified Level C
	Greater than 2.5 f/cc	Leave work area and notifiy CIH

Compound(s) of Concern	Action Levels	Level of Protection
Confined Space s	Oxygen less than 19.5% And greater than 23.5%	Do Not Enter
	LEL at or above 10%	Do Not Enter

Compound(s) of Concern	Action Levels	Level of Protection
Dust Levels	Background to 5.0 mg/m3	Level D
	5 mg/m3 to 15 mg/m3	Level C
	greater than 15 mg/m3	Level B

Compound(s) of Concern	Action Levels	Level of Protection
Carbon Monoxide Levels	Background to 25 ppm	Level D
	25 ppm to 50 ppm	Level B

Compound(s) of Concern	Action Levels	Level of Protection
VOC (benzene, ethyl benzene, toluene, xylene, and PAH	Backround to 5 ppm	Level D
	5 ppm to 100 ppm	Level C
	greater than 100 ppm	Level B

Note: The action levels above shall apply for consistent PID results over a period of several minutes. Fluctuations in VOC levels as a result of standard instrumentation drift may be evaluated by the SSHO on the Site and a determination will be made of an average ambient VOC level.

18.0 EMERGENCY RESPONSE AND CONTINGENCY/PRE-EMERGENCY PLANNING

Chain of Command and Emergency Notification

In the event of an emergency the following on-site chain of command will be followed.

Site Construction Manager
Health & Safety Manager

As part of the Emergency Response Plan (ERP), in the event of an actual or imminent emergency, the Site Construction Manager will be responsible for implementing the following actions:

1. Ensure that all personnel are accounted for and isolated from danger (all Site workers and visitors will have signed in on a daily log to facilitate identification of all personnel on-site).

2. Identify the character, source, amount and extent of released material.

3. Assess possible hazards to human health or the environment that may result from the emergency.

4. Arrange for emergency services for any injured personnel.

5. Notify state or local emergency response teams, if necessary.

6. Determine whether evacuation is necessary or prudent.

7. Take appropriate measures within reason and when safe, to ensure that fires or explosions do not occur, recur, continue or spread to other areas of the Site.

8. Notify and contract with outside emergency response, if necessary, to assist with controlling.

If the emergency threatens human health or the environment off-site, the Site Construction Manager must:

1. Notify local authorities (police, fire department).

2. Notify USEPA's Project Manager, Ms. Stephanie Doolan (913) 551-7719.

3. In the case of an uncontrolled release of hazardous waste, immediately notify the National Response Center (NRC) at 1-800-424-8802 and report:

    - Name and telephone number of reporter of the release;
    - Name and address of Site;
    - Time and type of incident;
    - Name and quantity of material(s) involved;
    - Extent of injuries; and
    - Possible hazards to human health or the environment outside the facility.

4. Notify Missouri Department of Natural Resources (MDNR) at 1-573-634-2436 (24 hours) of any spill (hazardous or non-hazardous).

In determining the need to evacuate, the Emergency Coordinator will consider the following:

1. Prevailing wind conditions;
2. Potential for migration outside the facility; and
3. Possibility of explosion.

After an Emergency

After an emergency, the Site Construction Manager will perform the following:

1. Record the time, date, and details of the incident (In the operating record). Prepare a more comprehensive written report of the incident at a later date, as appropriate.

2. Supervise cleanup efforts and ensure that the recovered waste or contaminated material is properly treated, stored, or disposed.

3. Replace or replenish emergency equipment before operations resume.

Emergency Phone Numbers

Addresses and phone numbers of local, state and national emergency response teams, and government agencies are provided in this section. The Fire Department will have command of the emergency activities upon arrival at the Site.

Emergency Procedures

This section identifies specific procedures to be implemented by the Site Construction Manager in the event of spills, fires, or explosions.

Spills

In the event of a spill, leak, or release, the following procedures will be followed:

1. Upon the identification of a spill, the Site Construction Manager will immediately notify the Health & Safety Manager.

2. The source or cause of the release should be immediately controlled if it does not pose risk of personal injury.

3. The identity and amount of material released and area affected by the release should be determined.

4. All activities and operations in the spill area and areas downwind of the spill area should be terminated until the situation is controlled.

5. An assessment should be made as to whether other operations at the Site are affected by the spill. If so, those operations should be terminated or secured until the situation is controlled.

6. Possible hazards to human health and the environment should be assessed to determine the need for evacuation.

7. An evaluation of the need to obtain outside assistance to control the spill will be made.

8. Appropriate steps to remediate the spill and properly dispose of impacted media will be performed.

Fire

The following emergency procedures will be implemented in the event of a fire, depending on the magnitude of the incident and the amount of material involved.

Small Fire

1. Efforts will be taken to extinguish the fire, if there is no risk of personal injury or harm to the environment in doing so. Using a fire extinguisher, direct the extinguishing media to the base of the flames and exercise care not to spread burning liquid. If the fire cannot be quickly extinguished, the closest available alarm should be sounded, the area evacuated, and the procedures for large fires followed. This activity may be undertaken by any site personnel.

2. The Site Construction Manager will eliminate or restrict all sources of ignition to prevent re-ignition.

3. Spill cleanup procedures will be followed.

Large Fire

1. Sound emergency alarm.

2. Call Fire Department from nearest safe, accessible phone.

3. The Site Construction Manager will coordinate evacuation of the Site by all personnel (except those designated by the Site Construction Manager to remain on Site).

Medical Emergencies

Basic first aid equipment will be available in the field office at the Site. Qualified personnel are authorized to provide basic first aid, as needed. General actions that can be performed in response to injuries include:

1. Call emergency medical care – Dial 911.

2. In case of contact with hazardous materials, immediately flush skin and eyes with running water for at least 15 minutes.

3. Administer first aid, as appropriate.

4. Keep victim warm and await arrival of emergency medical response unit.

Resumption of Operations

Prior to resuming normal operations, the Site Construction Manager will ensure that all emergency equipment is inspected and returned to operating condition. Any equipment not in operating condition will be repaired or replaced prior to resuming operations.

Evacuation Plan

In the event that an incident poses a potential threat to human health and safety, the Site Construction Manager will evacuate the Site, or, at minimum, the affected area. If evacuation of surrounding areas is deemed necessary, the Site Construction Manager

will advise the local police and fire departments and MDNR of the potential threat to human health. Factors to consider in determining the need to evacuate and evacuation procedures are presented below.

Determination of Need to Evacuate

The Site Construction Manager will determine the need to evacuate based upon the following considerations:

1. Nature and toxicity of materials involved;

2. Prevailing wind direction;

3. Possibility of an explosion or spreading fire; and

4. Possibility of release of toxic vapors, gases, or mists.

Evacuation Procedures

The Site Construction Manager will coordinate and direct the evacuation according to the following procedures:

1. Operations will be shut down and secured by appropriate personnel.

2. All employees and visitors will leave the area and gather at the intersection of Russell and Second Streets, unless otherwise directed by the Site Construction Manager.

3. All employees and visitors should remain at the assembly area unless or until they check in with the Site Construction Manager.

4. All personnel will be accounted for by checking the visitors log to ensure that no one remains on Site.

5. Outside emergency services will be obtained, if necessary.

6. The decision to re-enter the Site will be made by the Site Construction Manager, in collaboration with appropriate safety and/or medical personnel.

Surrounding Area Evacuation

If the emergency situation is judged to potentially require the evacuation of areas surrounding the facility, the Site Construction Manager will immediately inform the Police and Fire Departments and the USEPA Project Manager of such a potential condition. This decision to recommend evacuation of the surrounding area to the appropriate agencies will be based on the following:

1. Nature and toxicity of materials involved;

2. Prevailing wind direction;

3. Migration potential outside of the Site;

4. Possibility of an explosion or spreading fire; and

5. Possibility of release of toxic vapors, gases, or mists.

Emergency Equipment

The following types of emergency equipment will be available at the Site field office and active work areas during remedial activities:

1. Communications equipment
2. Fire extinguishers
3. Personal protective equipment
4. First Aid equipment.

19.0 EMERGENCY CONTACT INFORMATION

The Safety & Health Officer will be responsible for notifying the following facilities or individuals:

Life-threatening emergency

St. Louis University Health Center (314) 577-8000
3635 Vista & Grand
St. Louis, Missouri

Route to hospital: Refer to Attachment B for hospital route and directions.

All other emergency care:
Barnes Hospital (314) 362-9123
One Barnes Hospital Plaza
St. Louis, Missouri 63110

Upon arrival, responding emergency personnel will assume site emergency command.

In the event of any emergency, contact the appropriate off-site personnel from the list, below, in the most timely manner possible.

NAME	OFFICE NUMBER	OTHER
Mark Underwood	(314) 241-0900	(314) 392-8131
Matthew Robinson	(314) 241-0900	(314) 258-2068
Donn Haines	(314) 241-0900	(314) 258-2052
Chad Elmore	(314) 241-0900	(314) 258-2067
Eddie Ross	(314) 241-0900	(314) 258-2056

Reid Hartmann	(314) 241-0900	(314) 258-2057

Fire Department	
Emergency:	911
Local Emergency Medical Team:	
Emergency:	911
Police Department:	
Emergency:	911
Utility Emergencies:	
Electric: Ameren Services	(800) 552-7583
Gas: Laclede Gas Energy	(800) 582-1234
Water: City of Saint Louis	(816) 630-0750
Underground Utilities:	1-800-DIG-RITE
Chemtrec:	(800) 424-9300
National Response Center:	(800) 424-8802
Poison Control Center:	(800) 332-6633
City of St. Louis Air Pollution Control:	(314) 613-7300

The following employees and site visitors have thoroughly read this Site Safety Plan and understand all aspects of the program.

SIGNATURE	DATE	COMPANY
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		

SITE VISITORS:

1.		
2.		
3.		
4.		

ATTACHMENT A
Material Safety Data Sheets

GRAYLING INDUSTRIES -- CONTROL LOW ODOR MASTIC REMOVER -- 6850-00F024265

========== Product Identification ==========

Product ID:CONTROL LOW ODOR MASTIC REMOVER
MSDS Date:10/24/1990
FSC:6850
NIIN:00F024265
MSDS Number: BNXFT
=== Responsible Party ===
Company Name:GRAYLING INDUSTRIES
Address:1008 BRANCH DR
City:ALPHARETTA
State:GA
ZIP:30201
Country:US
Info Phone Num:404-751-9095 800-424-9300
Emergency Phone Num:404-751-9095 800-424-9300
CAGE:GO128
=== Contractor Identification ===
Company Name:GRAYLINE IND INC
Address:1008 BRANCH DR
Box:City:ALPHARETTA
State:GA
ZIP:30201
Country:US
Phone:800-635-1551
CAGE:0E3G4
Company Name:GRAYLING INDUSTRIES INC
Address:1008 BRANCH DR
City:ALPHARETTA
State:GA
ZIP:30201
Country:US
Phone:(404) 751-9095 OR (404) 671-1319
CAGE:GO128

========== Composition/Information on Ingredients ==========

Ingred Name:KEROSENE (PETROLEUM), HYDROTREATED; PETROLEUM DISTILLATE, HYDROTREATED
CAS:64742-47-8
RTECS #:OA5504000
OSHA PEL:500 PPM

Ingred Name:SOLVENT NAPHTHA, HEAVY AROMATIC NAPHTHA
CAS:64742-94-5
RTECS #:WF3100000
OSHA PEL:500 PPM

Ingred Name:2-BUTOXYETHANOL (ETHYLENEGLYCOL MONOBUTYL ETHER), BUTYL CELLOSOLVE, BUTYL GLYCOL, GLYCOL ETHER EB
CAS:111-76-2
RTECS #:KJ8575000
Other REC Limits:25 PPM (SKIN)
OSHA PEL:S, 50 PPM
ACGIH TLV:S, 25 PPM; 9293

========== Hazards Identification ==========

Routes of Entry: Inhalation:YES Skin:YES Ingestion:NO
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:EYES: IRRITAITON. SKIN: IRRITATION & DEFATTING. INHALATION: NASAL & RESPIRATORY IRRITATION, ANESTHESIA.
Explanation of Carcinogenicity:NONE
Effects of Overexposure:EYES: IRRITATION. SKIN: IRRITATION & DEFATTING. INHALATION: NASAL & RESPIRATORY IRRITATION, ANESTHESIA.

First Aid Measures

First Aid:INHALATION: REMOVE VICTIM TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION IF NECESSARY. EYES: FLUSH W/WATER FOR 15 MINUTES. SKIN: WASH AFFECTED AREAS W/SOAP & WATER. INGESTION: DO NOT INDUCE VOMITING. OBTA IN MEDICAL ATTENTION IN ALL CASES.

Fire Fighting Measures

Flash Point:141F
Lower Limits:0.6%
Upper Limits:7.0%
Extinguishing Media:FOAM, DRY CHEMICAL OR WATER SPRAY.
Fire Fighting Procedures:USE WATER SPRAY TO COOL FIRE-EXPOSED SURFACES & TO PROTECT PERSONNEL.

Accidental Release Measures

Spill Release Procedures:WIPE, MOP, OR FLUSH W/WATER. SOAK UP W/ABSORBANT MATERIAL.

Handling and Storage

Other Precautions:KEEP OUT OF REACH OF CHILDREN. READ LABEL DIRECTIONS. & CAUTIONS CAREFULLY.

Exposure Controls/Personal Protection

Respiratory Protection:ORGANIC VAPOR RESPIRATOR IN CONFINED SPACES.
Protective Gloves:NEOPRENE
Eye Protection:GLASSES OR GOGGLES
Other Protective Equipment:WEAR BOOTS & COVERALLS
Supplemental Safety and Health

Physical/Chemical Properties

Boiling Pt:B.P. Text:360F
Spec Gravity:0.84
Evaporation Rate & Reference:(BU AC = 1) 0.1
Solubility in Water:FORMS AN EMULSION
Appearance and Odor:CLEAR BLUE LIQUID/SWEET ODOR
Percent Volatiles by Volume:95-100

Stability and Reactivity Data

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZERS
Stability Condition to Avoid:OPEN FLAMES
Hazardous Decomposition Products:CO, CO_2

Disposal Considerations

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE W/LOCAL, STATE & FEDERAL REGULATIONS.

Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.

HUNTING SPECIALTY PRODUCTS INC -- SPRAY GLUE -- 8040-00F018546

========== Product Identification ==========

Product ID:SPRAY GLUE
MSDS Date:02/01/1990
FSC:8040
NIIN:00F018546
MSDS Number: BKYDY
=== Responsible Party ===
Company Name:HUNTING SPECIALTY PRODUCTS INC
Address:265 S WEST STREET
City:LEBANON
State:OH
ZIP:45036
Info Phone Num:(513) 241-9202
Emergency Phone Num:(513) 241-9202
CAGE:HUNTI
=== Contractor Identification ===
Company Name:HUNTING SPECIALTY PRODUCTS, INC.
Address:265 S. WEST STREET
City:LEBANON
State:OH
ZIP:45036
Country:US
Phone:800-733-4413
CAGE:HUNTI

========== Composition/Information on Ingredients ==========

Ingred Name:TOLUENE (SARA III)
CAS:108-88-3
RTECS #:XS5250000
Fraction by Wt: 4%
Other REC Limits:100 PPM
OSHA PEL:200 PPM/150 STEL
ACGIH TLV:50 PPM; 9293
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:ACETONE (SARA III)
CAS:67-64-1
RTECS #:AL3150000
Fraction by Wt: 4%
Other REC Limits:590 MG/CUM
OSHA PEL:1000PPM
ACGIH TLV:750PPM/1000STEL;9293
EPA Rpt Qty:5000 LBS
DOT Rpt Qty:5000 LBS

Ingred Name:HEXANE (N-HEXANE)
CAS:110-54-3
RTECS #:MN9275000
Fraction by Wt: 30%
Other REC Limits:50 PPM
OSHA PEL:500 PPM
ACGIH TLV:50 PPM; 9293
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

5. FIRE-FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASH POINT: -156F, -104C
METHOD USED: Estimated
AUTOIGNITION TEMPERATURE: NA
FLAMMABILITY LIMITS
LFL: NA
UFL: NA

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include but are not limited to: nitrogen oxides, isocyanates, hydrogen cyanide, carbon monoxide, and carbon dioxide.

OTHER FLAMMABILITY INFORMATION: Product reacts with water. Reaction may produce heat and/or gases. Reaction may be violent. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

EXTINGUISHING MEDIA: Carbon dioxide, dry chemical, foam, water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Do not use direct water stream. May spread fire.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended but may be applied in very large quantities as a fine spray when other extinguishing agents are not available. Contain fire water run-off if possible. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider use of unmanned hose holder or monitor nozzles. Use water spray to cool fire exposed containers and fire affected zone until fire is out. Immediately withdraw all personnel from area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant clothing with SCBA. This will not provide sufficient fire protection; consider fighting fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer

6. ACCIDENTAL RELEASE MEASURES

PROTECT PEOPLE: Avoid any contact. Barricade area. Clear non-emergency personnel from area. Keep upwind of spill. Ventilate area of leak or spill. The area must be evacuated and reentered by persons equipped for decontamination. Use appropriate safety equipment. Ventilate area of leak or spill. If available, use foam to suppress vapors. For additional information, refer to "Exposure Controls/Personal Protection", MSDS Section 8. See Section 10, Stability and Reactivity.

PROTECT THE ENVIRONMENT: Contain liquid to prevent contamination of soil, surface water or ground water. Keep out of ditches, sewers, and water supplies. Should the product enter sewers or drains, it should be pumped into a covered, vented container; the cover should be placed loosely on the container but not made pressure tight. Move to a well-ventilated area. Emergency services may need to be called to assist in the cleanup operation.

CLEAN-UP: Supplies of suitable decontaminant should always be kept available. Absorb with material such as: sawdust, vermiculite, dirt, sand, clay, cob grit, Milsorb. Avoid materials such as cement powder. Collect material in suitable and properly labeled OPEN containers. Do not place in sealed container. Prolonged contact with water results in a chemical reaction which may result in rupture of the container. Place in: polylined fiber pacs, plastic drums, or properly labeled metal containers. Remove to a well ventilated area. Clean up floor areas. Attempt to neutralize by suitable decontaminant solution: Formulation 1: sodium carbonate 5-10%; liquid detergent 0.2-2%; water to make up to 100%. OR Formulation 2: Concentrated ammonia solution 3-8%; liquid detergent 0.2-2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. If you have any questions on how to neutralize call The Dow Chemical Company. Please refer to Disposal Information, MSDS Section 13. See Section 7 and 15 for more specific information.

7. HANDLING AND STORAGE

HANDLING: Avoid contact of this product with water at all times during handling and storage. Use only with adequate ventilation. Keep equipment clean. Use disposable containers and tools where possible. Do not eat, drink, or smoke in working area. Refer to Exposure Controls/Personal Protection, Section 8, of the MSDS.

STORAGE: Store in a dry place. Store between 32°F-90°F (0°-32°C). Keep containers tightly closed when not in use. Protect containers from physical abuse. Avoid direct sunlight. DO NOT incinerate aerosol can.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use only with adequate ventilation. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and the people working at this point. Odor is inadequate warning of excessive exposure.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use chemical goggles.

SKIN PROTECTION Use protective clothing impervious to this material. Selection of specific items such as faceshield, gloves, boots, apron, or full-body suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water (warm water if available) and launder clothing before reuse. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and destroyed.

RESPIRATORY PROTECTION: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic

vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (airline or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus.

EXPOSURE GUIDELINES(S):
Methylene bisphenyl isocyanate (MDI): ACGIH TLV is 0.005 ppm TWA and OSHA PEL is 0.02 ppm Ceiling.

Isobutane: ACGIH TLV and OSHA PEL are 800 ppm.

Propane: ACGIH TLV is 2500 ppm TWA and OSHA PEL is 1000 ppm.

Dimethyl Ether: ACGIH TLV is 1000 ppm TWA.

PELs are in accord with those recommended by OSHA, as in the 1989 revision of

9. PHYSICAL AND CHEMICAL PROPERTIES

Flash Point	: -156°F (-104°C) (estimated)
Vapor Pres. (21°C/70°F)	: 4210 mm HG
Specific Gravity	: 1.1
VOC Content (g/L)	: 158.1 grams/Litre

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under recommended storage conditions. See Section 7, Storage.

CONDITIONS TO AVOID: Avoid temperatures above 105F, 41C. Avoid temperatures below 75F, 24C. Can react with itself at temperatures above 320F, 160C. Product can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid moisture. Material reacts slowly with water, releasing carbon dioxide, which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with acids, water, alcohols, amines, ammonia, bases, moist air, and strong oxidizers. Avoid contact with metals such as aluminum, brass, copper, galvanized metals, tin, zinc. Avoid contact with moist organic absorbents. Reaction with water will generate carbon dioxide and heat. Generation of gas can cause pressure buildup in closed systems. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat. Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact, these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and are denser than water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. See Hazardous Polymerization Section.

HAZARDOUS DECOMPOSITION PRODUCTS: Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

HAZARDOUS POLYMERIZATION: Can occur. Polymerization can be catalyzed by: strong bases and water. Can react with itself at temperatures above 320F (160C).

11. TOXICOLOGICAL INFORMATIONTOXICOLOGICAL INFORMATION (See Section 3 for Potential Health
Effects)

ACUTE:
SKIN: The LD50 for skin absorption in rabbits is > 2000 mg/kg.

INGESTION: The oral LD50 for rats is > 10,000 mg/kg.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): Mutagenicity data on MDI are inconclusive. MDI was weakly positive in some in-vitro (test tube) studies; other in-vitro studies were negative. A mutagenicity study in animals was

DIMETHYL ETHER (115-10-6)
MUTAGENICITY
In vitro mutagenicity studies were positive. Animal mutagenicity studies were negative in some cases and positive in other cases.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Based on information for MDI and polymeric MDI. In the aquatic or terrestrial environment, movement is expected to be limited by its reactivity with water forming predominantly insoluble polyureas.

DEGRADATION & PERSISTENCE: Based on information for MDI and polymeric MDI. In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

ECOTOXICITY: Based on information for MDI and polymerc MDI. The measured ecotoxicity is that of the hydrolzed product, generally under conditions maximizing production of soluble species. Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 > 100 mg/L in most sensitive species). The LC50 in earthworm Eisenia foetida is > 1000 mg/kg.

13. DISPOSAL CONSIDERATIONS

DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING

PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients).

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

For additional information, refer to:

- Handling & Storage Information, MSDS Section 7. - Stability & Reactivity Information, MSDS Section 10.
- Regulatory Information, MSDS Section 15.

As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 989-832-1556 for further details.

14. TRANSPORT INFORMATION

Consumer Commodity ORM-D

15. REGULATORY INFORMATION

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, expressed or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

SARA 313 INFORMATION: This product contains the following 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:

CHEMICAL NAME	CAS NUMBER
METHYLENE BIS(PHENYLISOCYANATE)(MDI)	000101-68-8
POLYMERIC DIPHENYLMETHANE DIISOCYANATE	009016-87-9

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

PMDI/MDI
An immediate health hazard
A delayed health hazard

ISOBUTANE/PROPANE: A fire hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: The following product components are cited on certain state lists as mentioned. Non-listed components may be shown in the composition section of the MSDS.

CHEMICAL NAME	CAS NUMBER	LIST
Isobutane	75-28-5	MA. NJ, PA
Propane	74-98-6	MA. NJ, PA15.

REGULATORY INFORMATION

MA=Massachusetts Right to Know Substance List
NJ2=New Jersey Environmental Hazardous Substance
NJ3=New Jersey Workplace Hazardous Substance
PA1=Pennsylvania Hazardous Substance
PA3=Pennsylvania Environmental Hazardous Substance

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPERFUND): To the best of our knowledge, this product contains the following chemical subject to reporting under CERCLA.

Propane 100 lbs
Isobutane 100 lbs

CANADIAN REGULATIONS

==========

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:
D3 combustible liquid.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):
All substances in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. OTHER INFORMATION

HMIS - H - F - R - PPE

2 - 4 - 1 - B

This product is a polyurethane blend in the form of a solution in liquid containing by weight 50% or more polymer.

(TM),*, OR (R) INDICATES A TRADEMARK OF THE DOW CHEMICAL COMPANY

INSTA FOAM PRODUCTS CO -- GREAT STUFF -- 8135-00N032065

========== Product Identification ==========

Product ID:GREAT STUFF
MSDS Date:11/20/1992
FSC:8135
NIIN:00N032065
MSDS Number: BYGGT
=== Responsible Party ===
Company Name:INSTA FOAM PRODUCTS CO
Address:1500 CEDARWOOD DR
City:JOLIET
State:IL
ZIP:60435
Country:US
Info Phone Num:815-741-6800
Emergency Phone Num:800-424-9300 (CHEMTREC)
Preparer's Name:A. GIRARD
CAGE:46088
=== Contractor Identification ===
Company Name:INSTA FOAM PRODUCTS
Address:1500 CEDARWOOD DR
Box:City:JOLIET
State:IL
ZIP:60435-5000
Country:US
Phone:815-741-6800/FAX 815-741-6322
CAGE:46088
Company Name:INSTA-FOAM PRODUCTS INC
Address:1500 CEDARWOOD DR
Box:City:JOLIET
State:IL
ZIP:60435
Country:US
Phone:815-741-6800
CAGE:54577

========== Composition/Information on Ingredients ==========

Ingred Name:ISOCYANIC ACID, METHYLENEDI-P-PHENYLENE ESTER;
(4,4-DIPHENYLMETHANE-DIISOCYANATE (MDI)) (SARA 313)
CAS:101-68-8
RTECS #:NQ9350000
Fraction by Wt: 30-60%
OSHA PEL:0.02 PPM, C
ACGIH TLV:0.005 PPM
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:POLYMETHYLENEPOLYPHENYL ISOCYANATE; (POLYMERIC MDI)
CAS:9016-87-9
RTECS #:TR0350000
Fraction by Wt: 30-60%
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:POLYETHER POLY BLEND
Fraction by Wt: 15-40%

OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:METHANE, CHLORODIFLUORO-; (CHLORODIFLUOROMETHANE) (SARA 313) (CERCLA)
CAS:75-45-6
RTECS #:PA6390000
Fraction by Wt: 15-40%
OSHA PEL:1000 PPM
ACGIH TLV:1000 PPM
Ozone Depleting Chemical:2

Ingred Name:TRISPHOSPHATE
Fraction by Wt: 3-7%
OSHA PEL:N/K
ACGIH TLV:N/K

Ingred Name:VOLATILE ORGANIC COMPOUND: 0 LB/GAL
RTECS #:9999999VO
OSHA PEL:N/K
ACGIH TLV:N/K

========== Hazards Identification ==========

LD50 LC50 Mixture:MDI: LD50: (ORAL, RAT) 15 G/KG
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:CHLOROFLUOROCARBON (CFC) MATERIALS HAVE PRODUCED SENSIT OF MYOCARDIUM TO EPINEPHRINE IN LAB ANIMALS & COULD HAVE A SIMILAR EFFECT IN HUMANS. ADRENOMIMETICS (IE, EPINEPHRINE) MAY BE CONTRA-INDICATED EX CEPT FOR LIFE-SUSTAINING USES IN HUMANSACUTELY OR CHRONICALLY EXPOSED TO CFCS . IRRITATING TO (EFTS OF OVEREXP)
Explanation of Carcinogenicity:NOT RELEVANT
Effects of Overexposure:HLTH HAZ: EYES, SKIN & RESPIRATORY TRACT. MAY CAUSE SENSITIZATION BY SKIN CONTACT AND INHALATION. SYMPTOMS MAY INCLUDE: COUGHING, WHEEZING AND SHORTNESS OF BREATH.
Medical Cond Aggravated by Exposure:EXPOSURE TO INDIVIDUALS WITH ASTHMA, ECZEMA AND/OR ALLERGIES MAY AGGRAVATE EXISTING CONDITIONS.

========== First Aid Measures ==========

First Aid:EYES: FLUSH WITH CLEAN, LOW PRESSURE WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. SKIN: REMOVE CONTAMINATED CLOTHING; WASH SKIN WITH SOAP AND WATER. INHALATION: REMOVE TO FRESH AIR. INGES TION: IN CEASE OF EXCESSIVE INGESTION, GIVE LARGE AMOUNT OF LIQUIDS. DO NOT INDUCE VOMITING. IN ALL CASES, SEEK ADDITIONAL MEDICAL ATTENTION.

========== Fire Fighting Measures ==========

Flash Point:>200F,>93C
Extinguishing Media:CARBON DIOXIDE, DRY CHEMICAL, FOAM, WATER.
Fire Fighting Procedures:WEAR NIOSH/MSHA APPROVED PRESSURE DEMAND SCBA AND FULL PROTECTIVE EQUIPMENT .
Unusual Fire/Explosion Hazard:THERMAL DECOMP PRODS MAY INCL FLUORIDES, CHLORIDES & PHOSGENE . DURING COMBUST, CARBON MONOXIDE & CARBON DIOIXDE, NITROGEN OXIDES, AMMONIA & (SUPDAT)

========== Accidental Release Measures ==========

Spill Release Procedures:PROVIDE ADEQUATE VENTILATION. WEAR SUITABLE PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT. SCRAPE UP THE BULK OF THE SPILL AND PUT INTO A SUITABLE WASTE RECEPTACLE. AVOID SPREADING THE SPILL TO OTHER SUR FACES.
Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

========== Handling and Storage ==========

Handling and Storage Precautions:PROTECT CNTNRS FROM PHYSICAL ABUSE. AVOID DIRECT SUNLIGHT. STORAGE TEMP: 32F-120F (0-49C). DO NOT INCIN AEROSOL CAN. CAUTION! CONTENTS UNDER PRESSURE.
Other Precautions:NO SMOKING IN AREA OF USE. DO NOT USE IN THE GENERAL VICINITY OF ARC WELDING, OPEN FLAMES OR HOT SURFACES. HEAT AND/OR UV RADIATION MAY CAUSE THE FORMATION OF CHLORIDES, FLUORIDES OR PHOSGENE .

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:USE ONLY IN WELL-VENTILATED AREAS. WITH INSUFFICIENT VENTILATION, WEAR NIOSH/MSHA APPROVED SELF CONTAINED BREATHING APPARATUS.
Ventilation:NONE SPECIFIED BY MANUFACTURER.
Protective Gloves:IMPERVIOUS GLOVES .
Eye Protection:ANSI APPRVD CHEM WORKERS GOGGLES .
Other Protective Equipment:WEAR PROTECTIVE CLOTHING. EYEWASH FOUNTAIN & DELUGE SHOWER MEETING ANSI DESIGN CRITERIA .
Work Hygienic Practices:NONE SPECIFIED BY MANUFACTURER.
Supplemental Safety and Health
EXPLO HAZ: TRACE AMTS OF HYDROGEN CYANIDE ARE GIVEN OFF.

========== Physical/Chemical Properties ==========

Vapor Pres:4000
Spec Gravity:1.3
Appearance and Odor:OFF WHITE, STICKY MATERIAL WITH A MILD ODOR.

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
AVOID ALCOHOLS, STRONG BASES, ACIDS AND AMMONIA. REACTION MAY BE VIOLENT AT ELEVATED TEMPERATURES.
Stability Condition to Avoid:VAOID WATER CONTAMINATION, OPEN FLAMES. REACTION MAY BE VIOLENT AT ELEVATED TEMPERTURES.
Hazardous Decomposition Products:CHLORIDES, FLUORIDES & PHOSGENE .

========== Disposal Considerations ==========

Waste Disposal Methods:DO NOT PUNCTURE OR INCINERATE. RELIEVE ALL PRESSURE PRIOR TO DISPOSAL. DISPOSE OF ACCORDING TO FEDERAL, STATE AND LOCAL REGULATIONS.

Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.

PHIBRO ENERGY USA, INC. -- DIESEL FUEL -- 9140-00-000-0184

========== Product Identification ==========

Product ID:DIESEL FUEL
MSDS Date:01/31/1994
FSC:9140
NIIN:00-000-0184
MSDS Number: BVGFN
=== Responsible Party ===
Company Name:PHIBRO ENERGY USA, INC.
Address:500 DALLAS AVE, SUITE 3200
City:HOUSTON
State:TX
ZIP:77002
Country:US
Info Phone Num:713-646-5135
Emergency Phone Num:713-923-6641, CHEMTREC 800-424-9300
Preparer's Name:SUE BOTTOM
CAGE:0V310
=== Contractor Identification ===
Company Name:PHIBRO ENERGY USA INC
Address:500 DALLAS AVE SUITE 3200
Box:City:HOUSTON
State:TX
ZIP:77002
Country:US
Phone:713-923-6641, CHEMTREC800-424-9300
CAGE:0V310

========== Composition/Information on Ingredients ==========

Ingred Name:PETROLEUM DISTILLATE, ALIPHATIC AND AROMATIC HYDROCARBONS (VARYING FROM C9 TO C20), CONTAING ALSO INGREDIENT #2 TO 7.
Fraction by Wt: BALANCE
Other REC Limits:NONE SPECIFIED
OSHA PEL:400 PPM NAPHTHA TWA

Ingred Name:N-OCTANE
CAS:111-65-9
RTECS #:RG8400000
Fraction by Wt: <1-2%
Other REC Limits:NONE SPECIFIED
OSHA PEL:300 PPM TWA 1989
ACGIH TLV:300 PPM/375STEL;9394

Ingred Name:N-NONANE
CAS:111-84-2
RTECS #:RA6115000
Fraction by Wt: <1-3%
Other REC Limits:NONE SPECIFIED
OSHA PEL:200 PPM
ACGIH TLV:200 PPM; 9192

Ingred Name:NAPHTHALENE (SARA III)
CAS:91-20-3
RTECS #:QJ0525000
Fraction by Wt: <1-3%
Other REC Limits:NONE RECOMMENDED

OSHA PEL:10 PPM
ACGIH TLV:10 PPM/15 STEL; 9394
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

Ingred Name:HEXANE ISOMERS (OTHER THAN N-HEXANE)
Fraction by Wt: <1-3%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:500 PPM
ACGIH TLV:500 PPM

Ingred Name:N-HEXANE
CAS:110-54-3
RTECS #:MN9275000
Fraction by Wt: <1-2%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:50 PPM 1989
ACGIH TLV:50 PPM; 9394
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

Ingred Name:N-HEPTANE
CAS:142-82-5
RTECS #:MI7700000
Fraction by Wt: <1-2%
Other REC Limits:NONE RECOMMENDED
OSHA PEL:400 PPM TWA 1989
ACGIH TLV:400 PPM/500STEL;9394

Ingred Name:HYDROGEN SULFIDE (SARA III)
CAS:7783-06-4
RTECS #:MX1225000
Other REC Limits:NONE RECOMMENDED
OSHA PEL:C, 20 PPM
ACGIH TLV:10 PPM/15 STEL; 9394
EPA Rpt Qty:100 LBS
DOT Rpt Qty:100 LBS

========== Hazards Identification ==========

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:ACUTE-INHALATION:CNS EFFECTS, RESPIRATORY IRRITATION. EYES:SEVERE IRRITATION. INGESTION:HARMFUL OR FATAL, IRRITATION OF GI TRACT. ASPIRATION INTO THE LUNGS CAN CAUSE SEVERE CHEMICAL PNEUMONITIS, WHICH CAN BE FATAL. SKIN:REPEATED EXPOSURE MAY CAUSE IRRITATION. CHRONIC:DERMATITIS. TARGET ORGANS:SKIN, LUNG, CNS.
Explanation of Carcinogenicity:PER NIOSH BULLETIN 50 A POTENTIAL OCCUPATIONAL CARCINOGENIC HAZARD EXISTS DUE TO HUMAN EXPOSURE TO DIESEL EXHAUST.
Effects of Overexposure:EYE:IRRITATION, REDNESS, TEARING, BLURRED VISION, CONJUCTIVITIS. SKIN:IRRITATION, DRYNESS, REDNESS, ITCHING. INHAL:HEADACHE, DIZZINESS, DROWZINESS, NAUSEA, VOMITNING, TREMORS, CONVULSIONS, IRREGULAR H EART BEAT. INGESTION: G/I IRRITATION AND SYMPTOMS SIMILAR TO INHALATION.
Medical Cond Aggravated by Exposure:EYE, SKIN, HEART, CNS, AND RESPIRATORY DISORDERS MAY BE AGGARAVATED BY OVEREXPOSURE.

========== First Aid Measures ==========

Boiling Pt:B.P. Text:325F,163C
Vapor Pres:<0.1 PSI
Vapor Density:3-7
Spec Gravity:0.84 - 0.93
Viscosity:8 CST @ -4F
Solubility in Water:NEGLIGIBLE
Appearance and Odor:CLEAR TO STRAW COLORED LIQUID, KEROSENE ODOR.
Percent Volatiles by Volume:NEGLIG

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS, STRONG ACIDS, CAUSTICS AND HALOGENS.
Stability Condition to Avoid:OPEN FLAMES, SOURCES OF IGNITION, STATIC ELECTRICITY.
Hazardous Decomposition Products:CARBON MONOXIDE, CARBON DIOXIDE AND REACTIVE HYDROCARBONS (LDEHYDES, AROMATICS, ETC) COMPOUNDS.

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

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WD-40 COMPANY -- WD-40 (SEE SUPPLEMENTAL) -- -

========== Product Identification ==========

Product ID:WD-40 (SEE SUPPLEMENTAL)
MSDS Date:03/01/1990
FSC:NIIN:Submitter:D DG
Status Code:A
MSDS Number: CKFBC
=== Responsible Party ===
Company Name:WD-40 COMPANY
Address:1061 CUDAHY PLACE (92110)
Box:80607
City:SAN DIEGO
State:CA
ZIP:92138-9021
Country:US
Info Phone Num:619-275-1400,CHEMTREC 800-424-9300
Emergency Phone Num:(800)424-9300
Resp. Party Other MSDS Num.:MSDS-B
Preparer's Name:R. MILES
Chemtrec Ind/Phone:(800)424-9300
CAGE:09137
=== Contractor Identification ===
Company Name:GRAVES-HUMPHREYS CO
Address:5320 PETERS CREEK RD
Box:13407
City:ROANOKE
State:VA
ZIP:24033
Country:US
Phone:(800-336-5998)
Contract Num:MDA414-98- P-6345
CAGE:1B236
Company Name:PAXTON-PATTERSON INC
Address:45 SAMWORTH RD
City:CLIFTON
State:NJ
ZIP:07012-1714
Country:US
Phone:NONE
CAGE:7A496
Company Name:WD-40 COMPANY
Address:1061 CUDAHY PLACE (92110)
Box:80607
City:SAN DIEGO
State:CA
ZIP:92138-0607
Country:US
Phone:619-275-1400
CAGE:09137

========== Composition/Information on Ingredients ==========

Ingred Name:ALIPHATIC PETROLEUM DISTILLATES
CAS:8052-41-3
RTECS #:WJ8925000
= Wt:70.
OSHA PEL:2900 MG/M3;500 PPM

ACGIH TLV:525 MG/M3;100 PPM

Ingred Name:PETROLEUM BASE OIL
CAS:64742-65-0
RTECS #:PY8038500
> Wt:20.

Ingred Name:NON-HAZARDOUS INGREDIENTS
< Wt:10.

========== Hazards Identification ==========

LD50 LC50 Mixture:NO DATA PROVIDED BY RESPONSIBLE PARTY.
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:DANGER! ASPIRATION HAZARD: IF SWALLOWED CAN ENTER LUNGS AND MAY CAUSE CHEMICAL PNEUMONITIS. INHALATION: MAY CAUSE ANESTHESIA, HEADACHE, DIZZINESS, NAUSEA AND UPPER RESPIRATORY IRRITATION. SKIN CONTACT : MAY CAUSE DRYING OF SKIN AND IRRITATION. EYE CONTACT: MAY CAUSE IRRITATION, TEARING AND REDNESS. INGESTION: MAY CAUSE IRRITATION, NAUSEA, VOMITING AND DIARRHEA.
Explanation of Carcinogenicity:THE COMPONENTS IN THIS MIXTURE HAVE BEEN FOUND TO BE NONCARCINOGENIC BY NTP, IARC AND OSHA.
Effects of Overexposure:INHALATION: MAY CAUSE ANESTHESIA, HEADACHE, DIZZINESS, NAUSEA AND UPPER RESPIRATORY IRRITATION. SKIN CONTACT: MAY CAUSE DRYING OF SKIN AND IRRITATION. EYE CONTACT: MAY CAUSE IRRITATION, TEARING AND RE DNESS. INGESTION: MAY CAUSE IRRITATION, NAUSEA, VOMITING AND DIARRHEA.
Medical Cond Aggravated by Exposure:NO DATA PROVIDED BY RESPONSIBLE PARTY.

========== First Aid Measures ==========

First Aid:INGESTION: DO NOT INDUCE VOMITING! SEEK MEDICAL ATTENTION. EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER FOR 15 MINUTES. SKIN CONTACT: WASH WITH SOAP AND WATER. INHALATION: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NECESSARY. IF BREATHING IS DIFFICULT, GIVE OXYGEN. ASPIRATION: DO NOT INDUCE VOMITING! SEEK MEDICAL ATTENTION.

========== Fire Fighting Measures ==========

Flash Point Method:TOC
Flash Point:>43.3C, 110.F
Lower Limits:1.0
Upper Limits:6.0
Extinguishing Media:CARBON DIOXIDE (CO2), DRY CHEMICAL, FOAM.
Fire Fighting Procedures:NONE.
Unusual Fire/Explosion Hazard:NONE.

========== Accidental Release Measures ==========

Spill Release Procedures:ABSORB SMALL QUANTITIES WITH SAND, SAWDUST, EARTH. LARGE QUANTITIES PUMP INTO TANK.
Neutralizing Agent:NO DATA PROVIDED BY RESPONSIBLE PARTY.

========== Handling and Storage ==========

Handling and Storage Precautions:KEEP FROM OPEN FLAM. DO NOT TAKE INTERNALLY. AVOID EXCESSIVE INHALATION OF SPRAY PARTICLES. KEEP

FROM CHILDREN.
Other Precautions:NO DATA PROVIDED BY RESPONSIBLE PARTY.

========== Exposure Controls/Personal Protection ==========

Respiratory Protection:ADVISED WHEN CONCENTRATIONS EXCEED TLV.
Ventilation:SUFFICIENT TO KEEP SOLVENT VAPOR LESS THAN TLV.
Protective Gloves:ADVISED TO PREVENT POSSIBLE SKIN IRRITATION.
Eye Protection:APPROVED EYE PROTECTION TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT.
Other Protective Equipment:NONE REQUIRED.
Work Hygienic Practices:NO DATA PROVIDED BY RESPONSIBLE PARTY.
Supplemental Safety and Health
NO DATA PROVIDED BY RESPONSIBLE PARTY.

========== Physical/Chemical Properties ==========

HCC:V2
Boiling Pt:>148.9C, 300.F
Vapor Pres:NOT DETERMINED
Vapor Density:>1
Spec Gravity:0.800 @ 70F
VOC Pounds/Gallon:568
Evaporation Rate & Reference:NOT DETERMINED
Solubility in Water:INSOLUBLE
Appearance and Odor:CLOUDY LIGHT AMBER LIQUID IN AEROSOL CAN. CHARACTERISTIC ODOR.
Percent Volatiles by Volume:74

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING MATERIALS.
Stability Condition to Avoid:N/A.
Hazardous Decomposition Products:THERMAL DECOMPOSITION MAY YIELD CARBON MONOXIDE AND/OR CARBON DIOXIDE.
Conditions to Avoid Polymerization:WILL NOT OCCUR.

========== Toxicological Information ==========

Toxicological Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

========== Ecological Information ==========

Ecological:NO DATA PROVIDED BY RESPONSIBLE PARTY.

========== Disposal Considerations ==========

Waste Disposal Methods:INCINERATE LIQUID, BURY SATURATED ABSORBENT IN LAND FILL. DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

========== MSDS Transport Information ==========

Transport Information:DOMESTIC SURFACE: PETROLEUM DISTILLATE MIXTURE. HAZARD CLASS: COMBUSTIBLE LIQUID. ID NUMBER: UN1268. LABEL REQUIRED: NONE, FOR CONTAINERS LESS THAN 100 GALLONS. DOMESTIC AIR: DESCRIPTION: PETROLEUM DI STILLATE MIXTURE. HAZARD CLASS: COMBUSTIBLE LIQUID. LABEL REQUIRED: NONE, FOR CONTAINERS LESS THAN 100 GALLONS. DLA-HMIS: NOTE: THE INFORMATION HERE IS FOR BULK

PRODUCT OR OTHER SIZED CONTAINERS THAN WHAT WAS PROCURED BY DESPO-KA. THEY PURCHASED 8 FL OZ CANS PACKAGED 12 TO A BOX.

========== Regulatory Information ==========

SARA Title III Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.
Federal Regulatory Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.
State Regulatory Information:NO DATA PROVIDED BY RESPONSIBLE PARTY.

========== Other Information ==========

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International Chemical Safety Cards

OXYGEN

ICSC: 0138

OXYGEN
Oxygen, compressed
(cylinder)
O_2
Molecular mass: 32.0

CAS # 7782-44-7
RTECS # RS2060000
ICSC # 0138
UN # 1072
EC # 008-001-00-8

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible but enhances combustion of other substances. Many reactions may cause fire or explosion. Heating will cause rise in pressure with risk of bursting.	NO open flames, NO sparks, and NO smoking. NO contact with flammable substances. NO contact with fuels and other combustible materials.	In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION	Risk of fire and explosion on contact with combustible materials such as oils or fats.		In case of fire: keep cylinder cool by spraying with water. Combat fire from a sheltered position.
EXPOSURE			
• INHALATION			
• SKIN			
• EYES	Redness.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
• INGESTION			

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Ventilation.	Fireproof. Separated from combustible and reducing substances. Cool.	O symbol R: 8-34 S: 21 UN Hazard Class: 2.2

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0138

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International Chemical Safety Cards

OXYGEN

ICSC: 0138

IMPORTANT DATA	**PHYSICAL STATE; APPEARANCE:** COMPRESSED GAS. **PHYSICAL DANGERS:** The gas is heavier than air. **CHEMICAL DANGERS:** The substance is a strong oxidant and reacts violently with combustible and reducing materials, with risks of fire and explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS (OELs):** TLV not established.	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation and through the skin. **INHALATION RISK:** **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Lungs may be affected by inhalation of high concentrations. Symptoms may be delayed.
PHYSICAL PROPERTIES	Boiling point: -183°C Melting point: -218.8°C Solubility in water: moderate (3.1 ml/100 ml at 20°C)	Relative vapour density (air = 1): 1.43 Octanol/water partition coefficient as log Pow: 0.65
ENVIRONMENTAL DATA		

NOTES

Do NOT use in the vicinity of a fire or a hot surface, or during welding. Also consult ICSC # 0880.

Transport Emergency Card: TEC (R)-842

ADDITIONAL INFORMATION

ICSC: 0138 **OXYGEN**

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International Chemical Safety Cards

ACETYLENE

ICSC: 0089

ACETYLENE
Ethine
Ethyne
(cylinder)
C_2H_2
Molecular mass: 26.0

CAS # 74-86-2
RTECS # AO9600000
ICSC # 0089
UN # 1001 (dissolved)
EC # 601-015-00-0

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Extremely flammable.	NO open flames, NO sparks, and NO smoking.	Shut off supply; if not possible and no risk to surroundings, let the fire burn itself out; in other cases extinguish with powder, carbon dioxide.
EXPLOSION	Gas/air mixtures are explosive.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Use reduced-sparking handtools. Use flame arrester to prevent flash-back from burner to cylinder.	In case of fire: keep cylinder cool by spraying with water.
EXPOSURE			
• **INHALATION**	Dizziness. Dullness.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
• **SKIN**	ON CONTACT WITH LIQUID: FROSTBITE.	Cold-insulating gloves.	Rinse with plenty of water, do NOT remove clothes.
• **EYES**		Safety goggles or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
• **INGESTION**		Do not eat, drink, or smoke during work.	

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Ventilation (extra personal protection: self-contained breathing apparatus).	Fireproof. Separated from: see Chemical Dangers. Cool.	Special insulated cylinder. F+ symbol R: 5-6-12 S: 9-16-33 UN Haz Class: 2.1

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0089

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International Chemical Safety Cards

ACETYLENE

ICSC: 0089

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
COLOURLESS GAS DISSOLVED IN ACETONE UNDER PRESSURE.

PHYSICAL DANGERS:
The gas mixes well with air, explosive mixtures are easily formed.

CHEMICAL DANGERS:
The substance may polymerize due to heating. The substance decomposes on heating and increasing pressure , causing fire and explosion hazard. The substance is a strong reducing agent and reacts violently with oxidants and with fluorine or chlorine under influence of light, causing fire and explosion hazard. Reacts with copper, silver, and mercury or their salts, forming shock-sensitive compounds (acetylides).

OCCUPATIONAL EXPOSURE LIMITS (OELs):
TLV not established.
MAK not established.

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation.

INHALATION RISK:
On loss of containment this gas can cause suffocation by lowering the oxygen content of the air in confined areas.

EFFECTS OF SHORT-TERM EXPOSURE:
Rapid evaporation of the liquid may cause frostbite. The substance may cause effects on the nervous system.

PHYSICAL PROPERTIES

Boiling point: -85°C
Melting point: -81°C
Solubility in water, g/100 ml at 20°C: 1.66
Vapour pressure, kPa at 20°C: 4460
Relative vapour density (air = 1): 0.907
Flash point: Flammable Gas
Auto-ignition temperature: 299°C
Explosive limits, vol% in air: 2.5-82

ENVIRONMENTAL DATA

NOTES

Piping material for this gas must not contain over 63% of copper. Check oxygen content before entering area. After use for welding, turn valve off; regularly check tubing, etc., and test for leaks with soap and water.

Transport Emergency Card: TEC (R)-20G25
NFPA Code: H 1; F 4; R 3;

ADDITIONAL INFORMATION

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GATECO OIL COMPANY -- UNLEADED REGULAR GASOLINE -- 9130-00-148-7103

========== Product Identification ==========

Product ID:UNLEADED REGULAR GASOLINE
MSDS Date:01/23/1989
FSC:9130
NIIN:00-148-7103
MSDS Number: BHYBX
=== Responsible Party ===
Company Name:GATECO OIL COMPANY
Address:2200 EAST BESSEMER AVENUE
City:GREENSBORO
State:NC
ZIP:27405
Country:US
Info Phone Num:919-273-8663
Emergency Phone Num:919-273-8663
CAGE:0MH29
=== Contractor Identification ===
Company Name:GATECO OIL COMPANY
Address:2200 EAST BESSEMER AVENUE
Box:City:GREENSBORO
State:NC
ZIP:27405
Country:US
Phone:919-273-8663
CAGE:0MH29

========== Composition/Information on Ingredients ==========

Ingred Name:GASOLINE
CAS:8006-61-9
RTECS #:LX3300000
Fraction by Wt: 100%
Other REC Limits:NONE SPECIFIED
OSHA PEL:300 PPM/500 STEL
ACGIH TLV:300 PPM/500STEL;9192

Ingred Name:BENZENE (SARA III)
CAS:71-43-2
RTECS #:CY1400000
Fraction by Wt: 2%
Other REC Limits:NONE SPECIFIED
OSHA PEL:1PPM/5STEL;1910.1028
ACGIH TLV:10 PPM; A2; 9192
EPA Rpt Qty:10 LBS
DOT Rpt Qty:10 LBS

Ingred Name:TOLUENE (SARA III)
CAS:108-88-3
RTECS #:XS5250000
Fraction by Wt: 8%
Other REC Limits:NONE SPECIFIED
OSHA PEL:200 PPM/150 STEL
ACGIH TLV:50 PPM; 9293
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:XYLENES (O-,M-,P- ISOMERS) (SARA III)
CAS:1330-20-7
RTECS #:ZE2100000
Fraction by Wt: 10%
Other REC Limits:NONE SPECIFIED
OSHA PEL:100 PPM/150 STEL
ACGIH TLV:100 PPM/150STEL;9192
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:ETHYL BENZENE (SARA III)
CAS:100-41-4
RTECS #:DA0700000
Fraction by Wt: 1%
Other REC Limits:NONE SPECIFIED
OSHA PEL:100 PPM/125 STEL
ACGIH TLV:100 PPM/125STEL 9192
EPA Rpt Qty:1000 LBS
DOT Rpt Qty:1000 LBS

Ingred Name:TRIMETHYL BENZENE (SARA III)
CAS:25551-13-7
RTECS #:DC3220000
Fraction by Wt: 2%
Other REC Limits:NONE SPECIFIED
OSHA PEL:25 PPM
ACGIH TLV:25 PPM; 9192

Ingred Name:METHYL TERT-BUTYL ETHER (SARA III)
CAS:1634-04-4
RTECS #:KN5250000
Fraction by Wt: 8%
Other REC Limits:NONE SPECIFIED
EPA Rpt Qty:1 LB
DOT Rpt Qty:1 LB

========== Hazards Identification ==========

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:YES IARC:YES OSHA:YES
Health Hazards Acute and Chronic:PRODUCT IS MILDLY IRRITATING TO BODY TISSUES. IT MAY PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION, AND PROLONGED AND/OR REPEATED CONTACT MAY CAUSE DERMATITIS.
Explanation of Carcinogenicity:PRODUCT CONTAINS BENZENE, LISTED BY NTP AND IARC. REGULATED BY OSHA.
Effects of Overexposure:EYE:IRRITATION, SKIN:MILD IRRITATION,POSSIBLE DERMATITIS WITH PROLONGED/REPEATED CONTACT. INHALED:RESPIRATORY IRRITATION, NAUSEA, DIZZINESS, HEADACHE. INGESTED:G/I IRRITATION, NAUSEA, VOMITING.
Medical Cond Aggravated by Exposure:PEOPLE WITH A SKIN DISORDER SHOULD USE EXTRA CAUTION TO AVOID SKIN CONTACT WHEN HANDLING OR USING THIS PRODUCT.

========== First Aid Measures ==========

First Aid:EYE:FLUSH W/WATER 15 MIN, HOLD LIDS OPEN. SKIN:WASH WITH SOAP & WATER. REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE REUSE. INHALED:REMOVE TO FRESH AIR. RESTORE BREATHING IF NECESSARY. INGESTED:D O NOT INDUCE VOMITING. GIVE 2 LARGE GLASSES OF MILK OR WATER AND GET IMMEDIATE MEDICAL CARE. GIVE NOTHING BY

MOUTH IF UNCONSCIOUS. IF IRRITATION PERSISTS OR IS SEVERE,SEE A DOCTOR.

Fire Fighting Measures

Flash Point Method:TCC
Flash Point:-45F,-43C
Lower Limits:1.3
Upper Limits:6.0
Extinguishing Media:USE WATER FOG, CARBON DIOXIDE, FOAM, OR DRY CHEMICAL.
Fire Fighting Procedures:FIRE FIGHTERS SHOULD USE NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT WHEN FIGHTING CHEMICAL FIRE. USE WATER SPRAY TO COOL NEARBY CONTAINERS EXPOSED TO FIRE.
Unusual Fire/Explosion Hazard:WATER STREAM WILL SCATTER FIRE. VAPORS ARE VERY EXPLOSIVE.

Accidental Release Measures

Spill Release Procedures:MINOR: ABSORB MATERIAL WITH CLAY, VERMICULITE, OR SIMILAR ABSORBENT MATERIAL. PLACE IN DISPOSAL CONTAINERS. MAJOR: DIKE & CONTAIN SPILL. ELIMINATE SOURCES OF IGNITION. SHUT OFF LEAKS. REMOVE LIQUID BY VACUUM OR ABSORBENT.

Handling and Storage

Handling and Storage Precautions:STORE IN A COOL, VENTILATED WORK AREA. KEEP CONTAINERS CLOSED WHEN NOT IN USE. DETACHED STORAGE IS PREFERABLE.
Other Precautions:'EMPTY' CONTAINERS MAY CONTAIN RESIDUE OR VAPOR. TREAT THEM WITH THE RESPECT DUE FULL ONES. DO NOT CUT,WELD,ETC. ON THEM. GROUND CONTAINERS BEFORE TRANSFERRING LIQUID. AVOID HAVING OPEN ELECTRICAL EQ UIPMENT IN VAPOR AREAS.

Exposure Controls/Personal Protection

Respiratory Protection:RESPIRATOR WILL NOT NORMALLY BE NECESSARY. USE NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR OR RESPIRATOR FOR ORGANIC VAPOR IF EXPOSURE IS ABOVE THE TLV/PEL. SEE 29 CFR 1910.134 FOR REGULATIONS PERTAI NING TO RESPIRATOR USE.
Ventilation:LOCAL AND MECHANICAL EXHAUST RECOMMENDED.
Protective Gloves:NEOPRENE, NITRILE, OR POLYVINYL ALCOHOL
Eye Protection:USE CHEMICAL SAFETY GOGGLES & FACESHIELD
Other Protective Equipment:EYE WASH STATION & SAFETY SHOWER.
Work Hygienic Practices:USE GOOD CHEMICAL HYGIENE PRACTICES. AVOID PROLONGED/REPEATED CONTACT. DO NOT EAT, DRINK OR SMOKE IN WORK AREA.
Supplemental Safety and Health
CODE MUR. ON HIS LABEL, MFR LISTS SPECIFICATION AS ASTM D-439.

Physical/Chemical Properties

HCC:F2
Boiling Pt:B.P. Text:82.0F,27.8C
Vapor Pres:10-15 MM
Vapor Density:3.0 - 4.0
Spec Gravity:0.72 - 0.74
Solubility in Water:NEGLIGIBLE
Appearance and Odor:CLEAR LIQUID, GASOLINE ODOR
Percent Volatiles by Volume:100

========== Stability and Reactivity Data ==========

Stability Indicator/Materials to Avoid:YES
STRONG OXIDIZING AGENTS
Stability Condition to Avoid:HIGH TEMPERATURES, SPARKS, AND OPEN FLAMES
Hazardous Decomposition Products:CARBON MONOXIDE, CARBON DIOXIDE AND OTHER HYDROCARBON COMPOUNDS DURING COMBUSTION.

========== Disposal Considerations ==========

Waste Disposal Methods:DISPOSE I/A/W ALL FEDERAL, STATE AND LOCAL REGULATIONS. MANUFACTURER SUGGESTS THAT DISPOSAL MAY BE DONE BY INCINERATION.

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MATERIAL SAFETY DATA SHEET
Revision Date: 09/29/2004

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Shell™ Hydraulic Oil 46
MSDS NUMBER: 60170E - 3
PRODUCT CODE(S): 65237, 6523700055

MANUFACTURER ADDRESS:SOPUS Products, P.O. Box 4427, Houston, TX. 77210-4427

TELEPHONE NUMBERS
Spill Information: (877) 242-7400
Health Information: (877) 504-9351
MSDS Assistance Number: (877) 276-7285

SECTION 2 PRODUCT/INGREDIENTS

CAS#	CONCENTRATION	INGREDIENTS
		Hydraulic Oil
Blend	90 - 98.99 %weight	Highly refined petroleum oils
Mixture	1 - 2.99 %weight	Additives

SECTION 3 HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Appearance & Odor: Amber, clear liquid. Mild odor.
Health Hazards: No known immediate health hazards. High-pressure injection under the skin may cause serious damage.
Physical Hazards: No known physical hazards.
NFPA Rating (Health, Fire, Reactivity): 0, 1, 0
Hazard Rating:Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

Inhalation:
Inhalation of vapors (generated at high temperatures only) or oil mist may cause mild irritation of the nose, throat, and respiratory tract.

Eye Irritation:
Lubricating oils are generally considered no more than minimally irritating to the eyes.

Skin Contact:
May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result. Release of the material during high-pressure applications may result in injection under the skin causing possible extensive tissue damage which is difficult to heal. Other adverse effects not expected from brief skin contact.

Ingestion:
Lubricating oils are generally no more than slightly toxic if swallowed.

Signs and Symptoms:
Irritation as noted above. Local necrosis is evidenced by delayed onset of pain and tissue damage a few hours following injection.

Aggravated Medical Conditions:
Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

For additional health information, refer to section 11.

SECTION 4 FIRST AID MEASURES

Inhalation:
If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

Skin:
Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. If material is injected under the skin, transport to the nearest medical facility for additional treatment. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye:
Flush with water. If irritation occurs, get medical attention.

Ingestion:
Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention. Have victim rinse mouth out with water, then drink sips of water to remove taste from mouth. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Note to Physician:
In general, emesis induction is unnecessary in high viscosity, low volatility products such as oils and greases.

SECTION 5 FIRE FIGHTING MEASURES

Flash Point [Method]: 400 °F -440 °F/204.44 °C -226.67 °C [Cleveland Open Cup]

Extinguishing Media:
Material will float and can be re-ignited on surface of water.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures:
May burn although not readily ignitable.

Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Spill Management:
FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

Reporting:
CERCLA: Product 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).

CWA: This product is an oil as defined under Section 311 of EPA's Clean Water Act (CWA). Spills into or leading to surface waters that cause a sheen must be reported to the National Response Center, 1-800-424-8802.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures:
Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles such as shoes or belts that cannot be decontaminated. Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking.

Storage:
Do not store in open or unlabeled containers. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Container Warnings:
Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Oil mist, mineral	ACGIH TLV	TWA: 5 mg/m3	STEL: 10 mg/m3
Oil mist, mineral	OSHA PEL	TWA: 5 mg/m3	

EXPOSURE CONTROLS

Provide adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

PERSONAL PROTECTION
Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation. Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

Eye Protection:
Chemical Goggles, or Safety Glasses

Skin Protection:
Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by:
Neoprene, or Nitrile Rubber

Respiratory Protection:
If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:
For Mist: Air Purifying, R or P style NIOSH approved respirator.
For Vapors: Air Purifying, R or P style prefilter & organic cartridge, NIOSH approved respirator. Self-contained breathing apparatus for use in environments with unknown concentrations or emergency situations.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Amber, clear liquid. Mild odor.
Substance Chemical Family: Lubricants
API Gravity: 30 - 32.3

Appearance: Amber, clear liquid.

Flash Point: 400 °F - 440 °F [Cleveland Open Cup]

Pour Point: -10 °F - 0 °F

Specific Gravity: 0.8856

Viscosity: 30 cSt - 100 cSt @ 40 °C

SECTION 10 REACTIVITY AND STABILITY

Stability:
Material is stable under normal conditions.

Conditions to Avoid:
Avoid heat and open flames.

Materials to Avoid:
Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products:
Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion. Aldehydes, Carbon Monoxide, Carbon Dioxide, Ketones, Methacrylate monomers
and other unidentified organic compounds may be formed upon combustion.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity
Dermal LD50 >5.0 g/kg(Rabbit) OSHA: Non-Toxic Based on components(s)
Oral LD50 >5.0 g/kg(Rat) OSHA: Non-Toxic Based on components(s)
Carcinogenicity Classification
Hydraulic Oil
NTP: No IARC: Not Reviewed ACGIH: No OSHA: No

SECTION 12 ECOLOGICAL INFORMATION

Environmental Impact Summary:
There is no ecological data available for this product. However, this product is an oil. It is persistent and does not readily biodegrade. However, it does not bioaccumulate.

SECTION 13 DISPOSAL CONSIDERATIONS

RCRA Information:

Under RCRA, it is the responsibility of the user of the material to determine, at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal.

SECTION 14 TRANSPORT INFORMATION

US Department of Transportation Classification
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

International Air Transport Association
Not regulated under IATA rules.

International Maritime Organization Classification
Not regulated under International Maritime Organization rules.

SECTION 15 REGULATORY INFORMATION

FEDERAL REGULATORY STATUS

OSHA Classification:
Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200, because it carries the occupational exposure limit for mineral oil mist.

Ozone Depleting Substances (40 CFR 82 Clean Air Act):
This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III:

There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312):
Immediate Health:NO Delayed Health:NO Fire:NO Pressure:NO
Reactivity:NO

SARA Toxic Release Inventory (TRI) (313):
There are no components in this product on the SARA 313 list.

Toxic Substances Control Act (TSCA) Status:
All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

Other Chemical Inventories:
Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, Chinese Inventory, European EINECS, Korean Inventory, Philippines PICCS,

State Regulation
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.

SECTION 16 OTHER INFORMATION

Revision#: 3
Revision Date: 09/29/2004
Revisions since last change (discussion): This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-1998). We encourage you to take the opportunity to read the MSDS and review the information contained therein.

SECTION 17 LABEL INFORMATION

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

PRODUCT CODE(S): 65237, 6523700055

Shell™ Hydraulic Oil 46

ATTENTION!

PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE OIL ACNE OR DERMATITIS.
HIGH-PRESSURE INJECTION UNDER SKIN MAY CAUSE SERIOUS DAMAGE.

Precautionary Measures:
Avoid prolonged or repeated contact with eyes, skin and clothing. Avoid breathing of vapors, fumes, or mist. Use only with adequate ventilation. Wash thoroughly after handling.

FIRST AID

Inhalation: If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.
Skin Contact: Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. If material is injected under the skin, transport to the nearest medical facility for additional treatment. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.
Eye Contact: Flush with water. If irritation occurs, get medical attention.
Ingestion: Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Have victim rinse mouth out with water, then drink sips of water to remove taste from mouth.

FIRE

In case of fire, Material will float and can be re-ignited on surface of water.

SPILL OR LEAK
Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

CONTAINS: Highly refined petroleum oils, Blend; Additives, Mixture

NFPA Rating (Health, Fire, Reactivity): 0, 1, 0

TRANSPORTATION
US Department of Transportation Classification
This material is not subject to DOT regulations under 49 CFR Parts 171-180.

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flames or heat. Keep container closed and drum bungs in place.

Name and Address
SOPUS Products
P.O. Box 4427
Houston, TX 77210-4427

ADMINISTRATIVE INFORMATION
MANUFACTURER ADDRESS: SOPUS Products, P.O. Box 4427, Houston, TX. 77210-4427
Company Product Stewardship & Regulatory Compliance Contact: Timothy W Childs
Phone Number: (713) 241-1524

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO US AT THIS TIME, AND IS BELIEVED TO BE ACCURATE BASED UPON THAT : IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT, FOR PURPOSE OF HAZARD COMMUNICATION. IT IS NOT INTENDED TO CONSTITUTE PRODUCT PERFORMANCE INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, UNDERLYING DATA OR THE INFORMATION CONTAINED HEREIN. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE, AND ARE ENCOURAGED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, YOU SHOULD CONSULT WITH YOUR LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. WE WILL NOT PROVIDE ADVICE ON SUCH MATTERS, OR BE RESPONSIBLE FOR ANY INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN. THE UNDERLYING DATA, AND THE INFORMATION PROVIDED HEREIN AS A RESULT OF THAT DATA, IS THE PROPERTY OF SOPUS PRODUCTS AND IS NOT TO BE THE SUBJECT OF SALE OR EXCHANGE WITHOUT THE EXPRESS WRITTEN CONSENT OF SOPUS PRODUCTS.

43309-11719-100R-09/29/2004

International Chemical Safety Cards

CHRYSOTILE

ICSC: 0014

CHRYSOTILE
Serpentine chrysotile
White asbestos
$Mg_6Si_4H_8O_{18}$ / $Mg_6(Si_4O_{10})(OH)_8$
Molecular mass: 554

CAS # 12001-29-5
RTECS # CI16478500
ICSC # 0014
UN # 2590 (white asbestos)

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT!	
• **INHALATION**	Cough.	Breathing protection. Closed system and ventilation.	
• **SKIN**		Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
• **EYES**			First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
• **INGESTION**		Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place (extra personal protection: complete protective clothing including self-contained breathing apparatus).	Well closed.	Use dust-proof packaging. UN Hazard Class: 9 UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0014

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities © IPCS CEC 1993

International Chemical Safety Cards

CHRYSOTILE

ICSC: 0014

IMPORTANT DATA	
	PHYSICAL STATE; APPEARANCE: WHITE, GREY, GREEN OR YELLOWISH FIBROUS SOLID. **PHYSICAL DANGERS:** **OCCUPATIONAL EXPOSURE LIMITS (OELs):** TLV: 2 fibres/cc (as TWA) A1 ppm; mg/m^3 (ACGIH 1992-1993). MAK: class III A1 (1993).
	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation. **INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** The substance may have effects on the lungs , resulting in pulmonary fibrosis and mesothelioma. This substance is carcinogenic to humans.

PHYSICAL PROPERTIES	Melting point: see Notes°C	Relative density (water = 1): 2.55
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air.	

NOTES

The substance is heat resistant up to 500°C and completely decomposed at temperature of 1000°C. Smoking enhances harmful effects. Depending on the degree of exposure, periodic medical examination is indicated. Do NOT take working clothes home. The recommendations on this Card also apply to other forms of asbestos.

Transport Emergency Card: TEC (R)-913

ADDITIONAL INFORMATION

ICSC: 0014

CHRYSOTILE

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ATTACHMENT B
Hospital Route Map

Live Search Maps

Start: **S 2nd St & Russell Ave, St Louis, MO 63104**
End: **3635 Vista Ave, St Louis, MO 63110-2539**
Trip: **3.8 mi, 7 min**

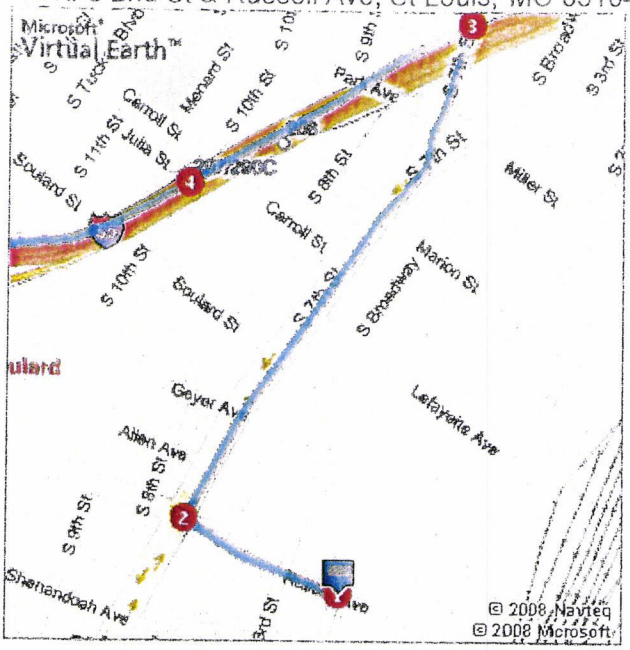
My Notes

NEW! Try Live Search 411
Dial 1-800-CALL-411 for latest info

1.	Depart **Russell Ave / Russell Blvd**	0.2 mi
2.	Turn **right** onto **S 7th St**	0.7 mi
3.	Take ramp **left** and follow signs for **I-55 South**	0.4 mi
4.	At exit **207/290C**, take ramp **right** for **I-44 West** toward **12th St**	1.6 mi
5.	At exit **288**, take ramp **right** for **Louisiana Ave** toward **Grand Blvd**	0.2 mi
6.	Turn **left** onto **Lafayette Ave**	0.2 mi
7.	Turn **right** onto **S Grand Blvd**	0.4 mi
8.	Turn **left** onto **Vista Ave**	0.1 mi
9.	Arrive at **3635 Vista Ave** *The last intersection is S Grand Blvd* *If you reach S Spring Ave, you've gone too far*	

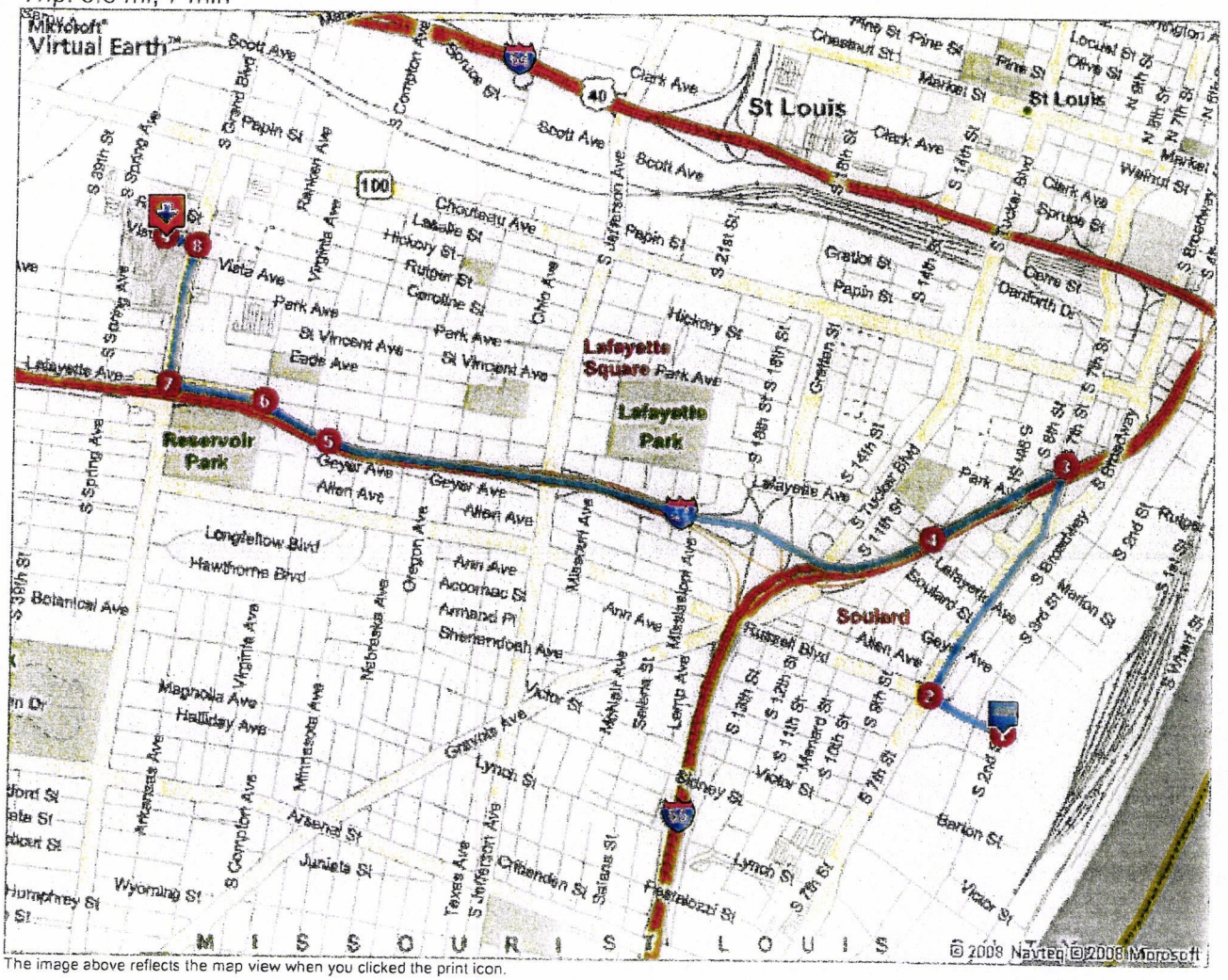
These directions are subject to the Windows Live Terms of Use and for informational purposes only. No guarantee is made regarding their completeness or accuracy. Construction projects, traffic, or other events may cause actual conditions to differ from these results. Map and traffic data © 2007 NAVTEQ™, AND™.

Start: S 2nd St & Russell Ave, St Louis, MO 63104



End: 3635 Vista Ave, St Louis, MO 63110-2539

Trip: 3.8 mi, 7 min



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