



**Material Safety Data Sheet
AI-2 INHIBITOR**

HEALTH	3
FLAMMABILITY	3
REACTIVITY	0
PERSONAL PROTECTION	H

24 hr. Emergency Contact (CHEMTREC) US Tel: 1- 800 - 424-9300 - Int'l. Tel. 703 - 527 - 3887

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER: CLEARWATER INTERNATIONAL L.L.C.
515 POST OAK BLVD., SUITE 600
HOUSTON, TX 77027

MANUFACTURER: CLEARWATER INTERNATIONAL L.L.C.
100 INDUSTRIAL DRIVE
LEETSDALE, PA 15056

PRODUCT NAME: AI-2 INHIBITOR
PRODUCT CODE: ACI5016C
PRODUCT USE/CLASS: Acid Corrosion Inhibitor

MSDS REVISION DATE: 04/22/03 **PREPARER:** MJW **PHONE:** 724-318-1050

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	EXPOSURE LIMITS	CAS#	% BY WEIGHT
GLYCOL ETHER	ACGIH TLV – 25 ppm TWA OSHA PEL – 25 ppm TWA	111-76-2	10-30%
PROPARGYL ALCOHOL	ACGIH TLV – 1ppm TWA, 3 ppm STEL	107-19-7	10-30%
ISOPROPANOL	ACGIH TLV – 400 ppm TWA , 500 ppm STEL OSHA PEL – 400 ppm TWA	67-63-0	10-30 %
PROPRIETARY COMPONENT	None Established	XXXXX-XX-X	3-7%

3. HAZARD IDENTIFICATION

EYE: Liquid, aerosols and vapors of this product may be irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

SKIN: May cause skin irritation. Allergic reactions are possible.

INGESTION: This material may be harmful if swallowed. May be irritating to mouth, throat, and stomach. .

INHALATION: Poison – May be fatal if inhaled. May be irritating to mucous membranes and lung tissue.

CHRONIC INFORMATION: May cause kidney damage and liver disorder.

PRIMARY ROUTE(S) OF ENTRY: Skin contact, Skin absorption, Eye contact, Inhalation, and Ingestion

4. FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention, if irritation persists.

SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persist.

INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

INGESTION: If swallowed induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Contact a poison control center of medical personnel immediately.

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5. FIRE FIGHTING MEASURES

FLASH POINT: 85 F
(TAGLIABUE CLOSED CUP)

LOWER EXPLOSIVE LIMIT: 1.1%
UPPER EXPLOSIVE LIMIT: 12.0%

AUTOIGNITION TEMPERATURE: N.D.

EXTINGUISHING MEDIA: ALCOHOL FOAM CO2 DRY CHEMICAL WATER FOG FOAM

UNUSUAL FIRE AND EXPLOSION HAZARDS: Can release vapors that form explosive mixtures at temperatures at or above the flash point. Empty containers retain product residue (liquid and/or vapor) and can be dangerous.

SPECIAL FIRE FIGHTING PROCEDURES: Containers can build up pressure if exposed to heat (fire). As in any fire, wear a self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Apply alcohol-type foam or all purpose foam manufacturers recommended techniques for large fires. Use carbon dioxide or dry chemical for small fires. Use water spray to keep containers cool.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Extinguish any possible ignition source until the area is determined to be free from fire or explosion hazard. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. (See exposure controls / personal protection section) Spilled material should be disposed of according to applicable regulations.

7. HANDLING AND STORAGE

HANDLING: Handle all chemicals with care. Ground and bond containers when transferring materials.

STORAGE: Keep away from heat, sparks, and flames. Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their exposure limits.

RESPIRATORY PROTECTION: Use a NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge when airborne concentrations are expected to exceed exposure limits. Protection by air purifying respirators is limited.

SKIN PROTECTION: When contact is likely wear chemical resistant gloves and boots.

EYE PROTECTION: Wear safety glasses with side shields or goggles.

OTHER PROTECTIVE EQUIPMENT: Emergency eye wash stations and deluge showers should be available in the work area.

HYGIENIC PRACTICES: Wash hands before eating. Use only with adequate ventilation. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Dark red

ODOR: N.D.

BOILING POINT (RANGE): 180-340F

FREEZE POINT: N.D.

VAPOR DENSITY: Heavier than air

VAPOR PRESSURE: N.D.

PHYSICAL STATE: Liquid

SOLUBILITY IN WATER: Soluble

PH (AS IS): 3.0

SPECIFIC GRAVITY: 0.9700

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10. STABILITY AND REACTIVITY DATA

CONDITIONS TO AVOID: Avoid temperature extremes. Excessive heat causes the vapor pressure to increase rapidly.

INCOMPATIBILITY: Avoid contact with strong acids and oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen.

HAZARDOUS POLYMERIZATION: Will not occur under normal use and storage conditions.

CHEMICAL STABILITY: This product is stable under normal storage conditions.

11. TOXICOLOGICAL INFORMATION

ORAL: No product information is available.

DERMAL: No product information is available.

INHALATION: No product information is available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No product information is available.

CHEMICAL FATE INFORMATION: No product information is available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Consult local, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations. Disposal in streams or sewers may be prohibited by federal, state, and local regulations.

RCRA STATUS: D001 –Characteristic of ignitability

14. TRANSPORTATION INFORMATION

(NON-BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Flammable Liquid, Toxic, N.O.S.

D.O.T. TECHNICAL NAME: (Isopropanol and Propargyl Alcohol)

D.O.T. HAZARD CLASS: 3

HAZARD SUBCLASS: 6.1

D.O.T. UN NUMBER: UN1992

PACKING GROUP: III

RESP. GUIDE PAGE: 131

(BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Flammable Liquid, Toxic, N.O.S.

D.O.T. TECHNICAL NAME: (Isopropanol and Propargyl Alcohol)

D.O.T. HAZARD CLASS: 3

HAZARD SUBCLASS: 6.1

D.O.T. UN NUMBER: UN1992

PACKING GROUP: III

RESP. GUIDE PAGE: 131

T.D.G. PROPER SHIPPING NAME: Flammable Liquid, Toxic, N.O.S.

T.D.G. TECHNICAL NAME: (Isopropanol and Propargyl Alcohol)

T.D.G. HAZARD CLASS: 3

HAZARD SUBCLASS: 6.1

T.D.G. UN NUMBER: UN1992

PACKING GROUP: III

RESP. GUIDE PAGE: 131

IMDG PROPER SHIPPING NAME: Flammable Liquid, Toxic, N.O.S.

IMDG TECHNICAL NAME: (Isopropanol and Propargyl Alcohol)

IMDG HAZARD CLASS: 3

HAZARD SUBCLASS: 6.1

IMDG UN NUMBER: UN1992

PACKING GROUP: III

EmS No: F-E, S-D

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15. REGULATORY INFORMATION

CERCLA – SARA HAZARD CATEGORY:

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

IMMEDIATE HEALTH HAZARD CHRONIC HEALTH HAZARD FIRE HAZARD

SARA SECTION 313: This product contains the following substances 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:

COMPONENT	CAS#	% BY WEIGHT
GLYCOL ETHER	111-76-2	10-30%

TSCA STATUS:

All components of this product are listed on the Toxic Substance Control Act Inventory or are excluded from the listing requirements.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: B-2, D-1A

CANADIAN ENVIRONMENTAL PROTECTION ACT:

All components of this product are listed on the Canadian Domestic Substance List (DSL).

16. OTHER INFORMATION

HMIS RATING – HEALTH: 3 FLAMMABILITY: 3 REACTIVITY: 0 PERSONAL PROTECTIVE RATING:H

LEGEND: N.A. – NOT APPLICABLE, N.E. - NOT ESTABLISHED, N.D. – NOT DETERMINED

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US, AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.



Material Safety Data Sheet

U.S. Department of Labor

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.

Occupational Safety and Health Administration
(Non-Mandatory Form) Form Approved OMB No. 1218-0072

Standard must be consulted for specific requirements.

IDENTITY (as Used on Label and List)

**HYDROCHLORIC ACID 31-37%
(20° - 22° be).**

ITEM #
MULTI

MSDS #
1910

Note: Blank spaces are not permitted.
If any item is not applicable or no
information is available, the space must
be marked to indicate that.

Section I

Manufacturer's name

PVS NOLWOOD CHEMICALS, INC.

Address (Number, Street, City, State and ZIP Code)

**9000 Hubbell Avenue
Detroit, MI. 48228**

Emergency Telephone Number

CHEMTREC (800) 424-9300

Telephone Number for Non-Emergency Information ONLY

(800) 284-9735

Date Prepared

Date Revised

04/21/06

12/4/08

Section II—Hazardous Ingredients/Identity Information (29 CFR 1910.1200)

Composition/Information on Ingredients (Specific Chemical Identity, Common Name(s))	CAS Number	OSHA PEL	ACGIH TLV	Percent	Hazardous
HYDROCHLORIC ACID *(see Identity above)	7647-01-0	5 ppm 7mg/m ³ , ceiling	5 ppm 7mg/m ³ , ceiling	31-37	YES
WATER	7732-18-5	N/A	N/A	63-69	NO

Section III—Physical/Chemical Characteristics

Boiling Point	140°F to 221°F (60°C to 105°C)	Specific Gravity (H ₂ O = 1)	1.067 to 1.083 @ 20°C
Vapor Pressure (mm Hg)	Not Available	Melting Point	Not Available
Vapor Density (AIR = 1)	Not Available	Evaporation Rate (Butyl Acetate = 1)	Not Available
Solubility in Water	100% by weight		
Appearance and Odor	Clear, Light Yellow, Pungent, Characteristic odor		

Section IV—Fire and Explosion Hazard Data

Flash Point (Method Used)	N/A	Flammable Limits	N/A	LEL	N/A	UEL	N/A
Extinguishing Media							

Material does not burn. Use any means suitable for extinguishing the surrounding fire.

Special Fire Fighting Procedures

In the event of a fire, wear full protective clothing and use NIOSH/MSHA self-contained breathing apparatus and full protective equipment with full facepiece operated in the pressure demand or other positive pressure mode.

Unusual Fire and Explosion Hazards

Not considered to be an explosion hazard.

Section V—Reactivity Data

Stability

Stable under ordinary conditions of use and storage.

Conditions to Avoid

See Incompatibility, below

Incompatibility (*Materials to Avoid*)

Avoid contact with alkali metals or other active metals and certain of their compounds. Do not add water directly to the product. The product may be added to water with mixing and dilution.

Reacts with metals with the evolution of hydrogen which when mixed with air may result in fire or explosion if ignited. Chlorine gas may be released by mixing with strong oxidizers.

Hazardous Decomposition or Byproducts

Generates toxic and irritating gases at high temperatures.

Hazardous Polymerization

Will not occur

Section VI—Health Hazard Data

Route(s) of Entry

Inhalation?

See below

Skin?

Yes

Ingestion?

Yes

Health Hazards (*Acute and Chronic*)

Inhalation is not an expected hazard unless heated to high temperature or misted. Mist or vapor inhalation can cause irritation to the nose, throat, and upper respiratory tract. Severe exposures can lead to a chemical pneumonitis.

Carcinogenicity

This product does not contain any substances that are considered by OSHA, NTP, IARC, or ACGIH to be "probable" or "suspected" human carcinogens.

Signs and Symptoms of Exposure

EYES: Contact rapidly causes severe irritation of the eyes and eyelids. If not quickly removed by thorough irrigation with water, there may be prolonged or permanent visual impairment or total loss of sight. Hydrogen Chloride gas escaping from the aqueous solution is immediately irritating.

SKIN: Contact may cause burns and tissue destruction.

INGESTION: Can cause severe burns to the mucous membranes of the digestive tract.

INHALATION: Breathing gas, fog, mist or spray may result in coughing and a burning or choking sensation in the throat. If inhaled deeply, fluid may collect in the lungs (edema). Prolonged or repeated exposure to concentrations in excess of the exposure limits may cause discoloration of teeth.

Medical Conditions Generally Aggravated by Exposure

Pre-existing disorders affecting target organs.

Emergency and First Aid Procedures

Emergency Overview: CORROSIVE. CAUSES SEVERE BURNS TO EYES, SKIN, AND DIGESTIVE TRACT. SEVERELY IRRITATING TO RESPIRATORY TRACT, EYES, AND SKIN. MAY CAUSE IRRITATION OF DIGESTIVE TRACT. MAY CAUSE DISCOLORATION OF TEETH.

INHALATION: Remove to fresh air. If breathing is difficult, have a trained person administer oxygen. If respiration stops, have a trained person give artificial respiration. Call a physician immediately.

INGESTION: If swallowed, **DO NOT INDUCE VOMITING.** Give large quantities of water. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep airway clear and give more water. Get medical attention immediately.

SKIN CONTACT: Immediately flush skin with plenty of water while removing contaminated clothing and shoes. Call a physician immediately. Wash clothing before reuse. Get medical attention as soon as possible.

EYE CONTACT: **IMMEDIATELY FLUSH EYES WITH A DIRECTED STREAM OF WATER** for at least 15 minutes, forcibly holding the eyelids apart to ensure complete eye surface is thoroughly rinsed. Washing eyes within several seconds is essential to achieve maximum effectiveness. Get medical attention immediately.

Section VII—Precautions for Safe Handling and Use

Steps to Be Taken in Case Material Is Released or Spilled

Evacuate unnecessary personnel. Keep unprotected personnel upwind of the spill area. Contain spilled material with dike to prevent entry into sewers or waterways. Large spills should be removed by vacuum truck. Smaller spills may be soaked up and neutralized with soda ash or other suitable material and treated in accordance with all applicable regulations.

Waste Disposal Method

Dispose of waste at an approved waste disposal facility according to currently applicable laws and regulations, and product characteristics at time of disposal. US regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities.

Precautions to Be Taken in Handling and Storing

Keep in a tightly closed container. Protect from physical damage. Open container carefully to avoid spurting. Store in a cool, dry, ventilated area away from sources of heat, moisture, incompatibles, and direct sunlight. Corrosive to mild steel. Containers of this material may be hazardous when empty since they retain product residues (i.e., vapors, liquid). Observe all warnings and precautions listed for the product.

Section VIII—Control Measures

Respiratory Protection (*Specify Type*)

Use of engineering controls to eliminate worker exposure to fumes or mists is strongly recommended. If the exposure limit is exceeded, a full-facepiece respirator with high efficiency dust/mist filter may be worn up to 50 times the exposure limit or the maximum use concentration specified by the regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure supplied air respirator. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

Ventilation

A system of local and/or general exhaust is strongly recommended to keep exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of fumes/mists into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent revision, for details.

Protective Clothing or Equipment

SKIN PROTECTION: Wear impervious protective clothing, including boots, gloves, suitable chemical splash protection (i.e., rubber overalls and jacket buttoned to the collar), as appropriate to prevent skin contact.
EYE PROTECTION: Use chemical safety goggles and full face shield where splashing is possible. Maintain eye wash fountain and quick drench facilities (safety shower) in immediate work area.

Work/Hygienic Practices

All food/smoking materials should be kept in a separate area away from the storage/use location. Eating, drinking and smoking should be prohibited in areas where there is a potential for significant exposure to this material.

Section IX—Transport Information

DOT Shipping Description

Proper Shipping Name: HYDROCHLORIC ACID
Hazard Class: 8
UN/NA: UN1789
Packing Group: PGII

Section X—Regulatory Information

Chemical Inventory Status - Part 1

<u>Ingredient</u>	<u>TSCA</u>
Hydrochloric Acid (7647-01-0)	YES
Water (7732-18-5)	YES

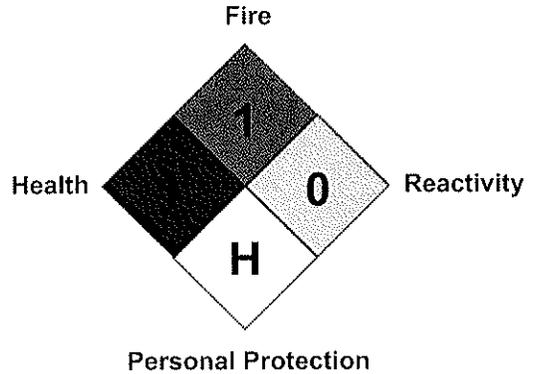
Federal, State, and International Regulations

<u>Ingredient</u>	<u>SARA 302</u>		<u>SARA 313</u>	
	<u>RQ</u>	<u>TPQ</u>	<u>List</u>	<u>Chemical Catg.</u>
Hydrochloric Acid (7647-01-0)	No	No	No	No
Water (7732-18-5)	No	No	No	No



HMS Hazard Rating:

- 4 = Severe
- 3 = Serious
- 2 = Moderate
- 1 = Slight
- 0 = Minimal



I. Chemical Product and Company Identification

Product Name: LSG-100
Identification #: 00-000-0000
Product Use/Class: Gelling Agent
Supplier: Superior Well Services
Supplier Tracking Code: 1100
Emergency Contact: CHEMTREC 1 (800) 424-9300
Prepared By: jps
Date Prepared: 12/02/2011

II. Composition/Information on Ingredients

Chemical Name: Hydrocarbons
CAS Number: 64742-96-7
Percent by Mass Less Than: 40-70

Exposure Limits

Threshold Limit Value - Time Weighted Average: N/A
Threshold Limit Value - Short Term Exposure Limit: N/A
Permissible Exposure Limit - Time Weighted Average: N/A
Permissible Exposure Limit - Ceiling: N/A
Company Threshold Limit - Time Weighted Average: N/A
Skin: N/A

III. Hazardous Identification

Emergency Overview: N/A
Eye Contact: N/A
Skin Contact: N/A
Inhalation: N/A
Ingestion: N/A
Chronic Harards: N/A

Effects of
Overexposure

Primary Route(s) of Entry:	<input type="checkbox"/> Skin Contact	<input checked="" type="checkbox"/> Eye Contact	<input type="checkbox"/> Ingestion
	<input type="checkbox"/> Skin Absorbtion	<input checked="" type="checkbox"/> Inhalation	

IV. First Aid Measures

Eye Contact: Check for and remove any contact lenses. Flush with running water for at least 15 minutes. Do not use eye ointment. Seek medical attention.

Skin Contact: After contact with skin, was immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reuse.

Inhalation: Allow victim to rest in a well ventilated area. Seek medical attention.

Ingestion: Seek medical attention if ingested. Induction of vomiting not required.

V. Fire Fighting Measures

Flash Point: 200° F closed cup.

Auto Ignition Temperature: N/A

Lower Explosive Temp.: N/A

Upper Explosive Temp.: N/A

Extinguishing Media: N/A

Unusual Fire and Explosive Harards: N/A

Special Fire Fighting Procedures: For small fires, use dry chemical powder. For large fires, use water spray, fog or foam. Do not use water jet.

VI. Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: For small spills, absorb with an inert material and put the spilled material in an appropriate waste disposal. For large spills, absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Wetted product will be very slippery.

VII. Handling and Storage

Handling:	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas fumes, vapor or spray in case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice.
Storage:	Keep container dry. Keep in a cool, well ventilated place. Ground all equipment containing material. Keep container tightly closed. Combustibles should be stored away from extreme heat and away from strong oxidizing agents. Avoid contaminating product with water.

VIII. Exposure Controls/Personal Protection

Engineering Controls:	N/A
Respiratory Protection:	Vapor respirator.
Skin Protection:	Gloves and apron.
Eye Protection:	Safety goggles.
Other Protective Equipment:	N/A
Hygienic Practices:	N/A

IX. Physical and Chemical Properties

Boiling Point:	>420° F	Vapor Density:	>14
Odor:	Kerosene-like.	Odor Threshold:	N/A
Appearance:	Oily slurry tan.	Evaporation Rate:	N/A
Solubility in H2O:	NA	Specific Gravity:	1.02
Freeze Point:	N/A	pH at 50.0%:	6-8
Vapor Pressure:	N/A	Viscosity:	N/A
Physical State:	Liquid		
Coefficient of Water Oil Distribution:	N/A		

X. Stability and Reactivity

Conditions to Avoid:	N/A
Incompatibility:	N/A
Hazardous Decomposition Products:	N/A
Hazardous Polymization:	N/A
Stability:	N/A

XI. Toxicological Properties

Toxicological Properties:	No product information is available.
Oral:	No product information is available.
Dermal:	No product information is available.
Inhalation:	No product information is available.

XII. Ecological Information

Ecological Properties: No product information is available.
Ecotoxicity: No product information is available.
Chemical Fate Information: No product information is available.

XIII. Disposal Consideration

Disposal Method: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA Status: No product information is available.

XIV. Transportation Information

DOT Proper Shipping Name: Not DOT Regulated

DOT Technical Name:

DOT Hazard Class:

DOT Hazard Subclass:

DOT UN/NA Number:

Packing Group:

Resp. Guide Page:

XV. Regulatory Information

OSHA: No Information
TSCA Status: No information
CERCLA SARA: No Information
SARA Section 313
Required Reporting:

XVI. Other Information

Other Information: NA = Not applicable ND = Not Determined NI = No Information NE = Not Established

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, or when used in conjunction with other products, exposures must be evaluated by the user so that appropriate handling practices and training programs can be established to ensure safe workplace operations. This information is confidential to Superior Well Services, Ltd. (SWSI) and intended solely for the use of the individual or entity to whom they are directly distributed. Distribution or use beyond the individual or entity is strictly prohibited without the consent of SWSI.



CLEARWATER
Engineered Chemistry

Material Safety Data Sheet OB ACTIVATOR

HEALTH	2
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	B

24 hr. Emergency Contact (CHEMTREC) US Tel: 1- 800 - 424-9300 - Int'l. Tel. 703 - 527 - 3887

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER: CLEARWATER INTERNATIONAL L.L.C.
515 POST OAK BLVD., SUITE 600
HOUSTON, TX 77027

MANUFACTURER: CLEARWATER INTERNATIONAL L.L.C.
4420 SOUTH FLORES ROAD
ELMENDORF, TEXAS 78112

PRODUCT NAME: OB ACTIVATOR
PRODUCT CODE: ACI0828A
PRODUCT USE/CLASS:

MSDS REVISION DATE: 07/09/04

PREPARER: MJW

PHONE: 724-318-1050

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	EXPOSURE LIMITS	CAS#	% BY WEIGHT
CUPRIC SULFATE	NONE ESTABLISHED	7758-98-7	10-30 %
COPPER	NONE ESTABLISHED	7447-39-4	0.1-1.5%

3. HAZARD IDENTIFICATION

EYE: Liquid, aerosols and vapors of this product may be irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

SKIN: May cause skin irritation. Allergic reactions are possible.

INGESTION: May be irritating to mouth, throat, and stomach.

INHALATION: May be irritating to mucous membranes and lung tissue.

CHRONIC INFORMATION: None known.

PRIMARY ROUTE(S) OF ENTRY: Inhalation and Ingestion.

4. FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention, if irritation persists.

SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persist.

INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

INGESTION: If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

FLASH POINT: ***F
(TAGLIABUE CLOSED CUP)

LOWER EXPLOSIVE LIMIT: N.A.
UPPER EXPLOSIVE LIMIT: N.A.

Material Safety Data Sheet

OB ACTIVATOR

AUTOIGNITION TEMPERATURE: N.D.

EXTINGUISHING MEDIA: Use media suitable for surrounding materials.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Emits highly toxic and irritating fumes in a fire.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, wear a self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb spill with inert material (e.g. dry sand or earth), then place into a chemical waste container. (See exposure controls / personal protection section) Spilled material should be disposed of according to applicable regulations.

7. HANDLING AND STORAGE

HANDLING: Wash thoroughly after handling.

STORAGE: Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their exposure limits.

RESPIRATORY PROTECTION: No protection needed under normal use and conditions. Use a NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge when airborne concentrations are expected to exceed exposure limits. Protection by air purifying respirators is limited.

SKIN PROTECTION: When contact is likely wear chemical resistant gloves and boots.

EYE PROTECTION: Wear safety glasses with side shields or goggles.

OTHER PROTECTIVE EQUIPMENT: Emergency eye wash stations should be available in the work area.

HYGIENIC PRACTICES: Wash hands before eating.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear blue

ODOR: N.D.

BOILING POINT (RANGE): N.D.

FREEZE POINT: N.D.

VAPOR DENSITY: N.D.

VAPOR PRESSURE: N.D.

PHYSICAL STATE: Solid

SOLUBILITY IN WATER: Complete

pH (AS IS): 3-5

SPECIFIC GRAVITY: 1.20-1.23

10. STABILITY AND REACTIVITY DATA

CONDITIONS TO AVOID: Avoid temperature extremes. Excessive heat causes the vapor pressure to increase rapidly.

INCOMPATIBILITY: Avoid contact with strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon.

HAZARDOUS POLYMERIZATION: Will not occur under normal use and storage conditions.

Material Safety Data Sheet

OB ACTIVATOR

CHEMICAL STABILITY: This product is stable under normal storage conditions.

11. TOXICOLOGICAL INFORMATION

ORAL: No product information is available.

DERMAL: No product information is available.

INHALATION: No product information is available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No product information is available.

CHEMICAL FATE INFORMATION: No product information is available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Consult local, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations. Disposal in streams or sewers may be prohibited by federal, state, and local regulations.

RCRA STATUS: Not determined.

14. TRANSPORTATION INFORMATION

(NON-BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S, Marine Pollutant

D.O.T. TECHNICAL NAME: Copper Sulfate

D.O.T. HAZARD CLASS: 9

HAZARD SUBCLASS: N/A

D.O.T. UN NUMBER: UN 3082

PACKING GROUP: III

RESP. GUIDE PAGE: 171

(BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S, Marine Pollutant

D.O.T. TECHNICAL NAME: Copper Sulfate

D.O.T. HAZARD CLASS: 9

HAZARD SUBCLASS: N/A

D.O.T. UN NUMBER: UN 3082

PACKING GROUP: III

RESP. GUIDE PAGE: 171

T.D.G. PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S, Marine Pollutant

T.D.G. TECHNICAL NAME: Copper Sulfate

T.D.G. HAZARD CLASS: 9

HAZARD SUBCLASS: N/A

T.D.G. UN NUMBER: UN 3082

PACKING GROUP: III

RESP. GUIDE PAGE: 171

IMDG PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, N.O.S, Marine Pollutant

IMDG TECHNICAL NAME: Copper Sulfate

IMDG HAZARD CLASS: 9

HAZARD SUBCLASS: N/A

IMDG UN NUMBER: UN 3082

PACKING GROUP: III

EmS No.: N/A

15. REGULATORY INFORMATION

CERCLA – SARA HAZARD CATEGORY:

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

NONE

Material Safety Data Sheet

OB ACTIVATOR

SARA SECTION 313: This product contains the following substances 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:

<u>COMPONENT</u>	<u>CAS#</u>	<u>% BY WEIGHT</u>
Copper	7447-39-4	0.5-1.5%

TSCA STATUS:

All components of this product are listed on the Toxic Substance Control Act Inventory or are excluded from the listing requirements.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: N.D.

CANADIAN ENVIRONMENTAL PROTECTION ACT:

All components of this product are listed on the Canadian Domestic Substance List (DSL).

16. OTHER INFORMATION

HMIS RATING – HEALTH: 2 FLAMMABILITY: 0 REACTIVITY: 0 PERSONAL PROTECTIVE RATING: B

LEGEND: N.A. – NOT APPLICABLE, N.E. - NOT ESTABLISHED, N.D. – NOT DETERMINED

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US, AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.



Material Safety Data Sheet SUPER OW-3

HEALTH	2
FLAMMABILITY	3
REACTIVITY	0
PERSONAL PROTECTION	G

24 hr. Emergency Contact (CHEMTREC) US Tel: 1- 800 - 424-9300 - Int'l. Tel. 703 - 527 - 3887

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER: CLEARWATER INTERNATIONAL L.L.C.
515 POST OAK BLVD., SUITE 600
HOUSTON, TX 77027

MANUFACTURER: CLEARWATER INTERNATIONAL L.L.C.
100 INDUSTRIAL DRIVE
LEETSDALE, PA 15056

PRODUCT NAME: SUPER OW-3
PRODUCT CODE: DEM7620C
PRODUCT USE/CLASS: NON-EMULSIFIER

MSDS REVISION DATE: 12/20/04

PREPARER: MJW

PHONE: 724-318-1050

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	EXPOSURE LIMITS	CAS#	% BY WEIGHT
ISOPROPYL ALCOHOL	ACGIH TLV – 400 ppm TWA, 500 ppm STEL OSHA PEL – 400 ppm TWA	67-63-0	15-40 %
METHANOL	ACGIH TLV – 200 ppm TWA, 250 ppm STEL OSHA PEL – 200 ppm	67-56-1	7-13 %

3. HAZARD IDENTIFICATION

EYE: Liquid, aerosols and vapors of this product may be irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

SKIN: May cause skin irritation. Allergic reactions are possible. Passage of this material into the body through the skin is possible, which will add to the toxic effects from ingestion and inhalation.

INGESTION: This material may be harmful or fatal if swallowed. Swallowing even small amounts may cause blindness.

INHALATION: Prolonged inhalation may be harmful and can cause headaches, dizziness, nausea, lachrymation, decreased blood pressure, changes in heart rate and cyanosis. May be irritating to mucous membranes and lung tissue.

CHRONIC INFORMATION: Over exposure may cause kidney and liver damage.

PRIMARY ROUTE(S) OF ENTRY: Skin absorption, Inhalation, Ingestion

4. FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention, if irritation persists.

SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persist.

INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

INGESTION: Get medical attention immediately. Do not give anything by mouth to an unconscious person. Place victim on left side with head down to prevent aspiration into lungs. Call a physician or poison control center immediately for advise on inducing vomiting.

Material Safety Data Sheet

SUPER OW-3

5. FIRE FIGHTING MEASURES

FLASH POINT: 80 F
(TAGLIABUE CLOSED CUP)

LOWER EXPLOSIVE LIMIT: N.D.
UPPER EXPLOSIVE LIMIT: N.D.

AUTOIGNITION TEMPERATURE: N.D.

EXTINGUISHING MEDIA: ALCOHOL FOAM CO2 DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS: Can release vapors that form explosive mixtures at temperatures at or above the flash point. Empty containers retain product residue (liquid and/or vapor) and can be dangerous.

SPECIAL FIRE FIGHTING PROCEDURES: Containers can build up pressure if exposed to heat (fire). As in any fire, wear a self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Apply alcohol-type foam or all purpose foam by manufacturers recommended techniques for large fires. Use carbon dioxide or dry chemical for small fires. Use water spray to keep containers cool.

6. ACCIDENTIAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Extinguish any possible ignition source until the area is determined to be free from fire or explosion hazard. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. (See exposure controls / personal protection section) Spilled material should be disposed of according to applicable regulations.

7. HANDLING AND STORAGE

HANDLING: Handle all chemicals with care. Ground and bond containers when transferring materials.

STORAGE: Keep away from heat, sparks, and flames. Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their exposure limits.

RESPIRATORY PROTECTION: Use a NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge when airborne concentrations are expected to exceed exposure limits. Protection by air purifying respirators is limited.

SKIN PROTECTION: When contact is likely wear chemical resistant gloves and boots.

EYE PROTECTION: Wear safety glasses with side shields or goggles.

OTHER PROTECTIVE EQUIPMENT: Emergency eye wash stations and deluge showers should be available in the work area.

HYGIENIC PRACTICES: Wash hands before eating. Use only with adequate ventilation. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Yellow

ODOR: Sl alcohol

BOILING POINT (RANGE): N.D.

FREEZE POINT: N.D.

VAPOR DENSITY: Heavier than air

VAPOR PRESSURE: N.D.

PHYSICAL STATE: Liquid

SOLUBILITY IN WATER: Complete

PH (AS IS): 6.0-8.0

SPECIFIC GRAVITY: 0.88-0.91

Material Safety Data Sheet

SUPER OW-3

10. STABILITY AND REACTIVITY DATA

CONDITIONS TO AVOID: Avoid temperature extremes. Excessive heat causes the vapor pressure to increase rapidly.

INCOMPATIBILITY: Avoid contact with strong acids and oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen.

HAZARDOUS POLYMERIZATION: Will not occur under normal use and storage conditions.

CHEMICAL STABILITY: This product is stable under normal storage conditions.

11. TOXICOLOGICAL INFORMATION

ORAL: No product information is available.

DERMAL: No product information is available.

INHALATION: No product information is available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No product information is available.

CHEMICAL FATE INFORMATION: No product information is available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Consult local, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations. Disposal in streams or sewers may be prohibited by federal, state, and local regulations.

RCRA STATUS: D001 –Characteristic of ignitability

14. TRANSPORTATION INFORMATION

(NON-BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Flammable Liquid, n.o.s., (methanol and isopropanol)

D.O.T. TECHNICAL NAME:

D.O.T. HAZARD CLASS: 3

HAZARD SUBCLASS: N/A

D.O.T. UN NUMBER: UN1993

PACKING GROUP: III

RESP. GUIDE PAGE: 128

(BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Flammable Liquid, n.o.s., (methanol and isopropanol)

D.O.T. TECHNICAL NAME:

D.O.T. HAZARD CLASS: 3

HAZARD SUBCLASS: N/A

D.O.T. UN NUMBER: UN1993

PACKING GROUP: III

RESP. GUIDE PAGE: 128

T.D.G. PROPER SHIPPING NAME: Flammable Liquid, Toxic, n.o.s., (methanol and isopropanol)

T.D.G. TECHNICAL NAME:

T.D.G. HAZARD CLASS: 3

HAZARD SUBCLASS: 6.1

T.D.G. UN NUMBER: UN1992

PACKING GROUP: III

RESP. GUIDE PAGE: 131

IMDG PROPER SHIPPING NAME: Flammable Liquid, Toxic, n.o.s., (methanol and isopropanol)

IMDG TECHNICAL NAME:

IMDG HAZARD CLASS: 3

HAZARD SUBCLASS: 6.1

IMDG UN NUMBER: UN1992

PACKING GROUP: III

EmS No.: F-E, S-E

Material Safety Data Sheet

SUPER OW-3

15. REGULATORY INFORMATION

CERCLA – SARA HAZARD CATEGORY:

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

IMMEDIATE HEALTH HAZARD CHRONIC HEALTH HAZARD FIRE HAZARD

SARA SECTION 313: This product contains the following substances 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:

COMPONENT	CAS#	% BY WEIGHT
METHANOL	67-56-1	7-13 %

TSCA STATUS:

All components of this product are listed on the Toxic Substance Control Act Inventory or are excluded from the listing requirements.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: B-2, D-2A

CANADIAN ENVIRONMENTAL PROTECTION ACT:

All components of this product are listed on the Canadian Domestic Substance List (DSL).

16. OTHER INFORMATION

HMIS RATING – HEALTH: 2 **FLAMMABILITY:** 3 **REACTIVITY:** 0 **PERSONAL PROTECTIVE RATING:** G

LEGEND: N.A. – NOT APPLICABLE, N.E. - NOT ESTABLISHED, N.D. – NOT DETERMINED

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US, AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.



Material Safety Data Sheet SUPER-100NE

HEALTH	2
FLAMMABILITY	3
REACTIVITY	0
PERSONAL PROTECTION	G

24 hr. Emergency Contact (CHEMTREC) US Tel: 1- 800 - 424-9300 - Int'l. Tel. 703 - 527 - 3887

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER: CLEARWATER INTERNATIONAL L.L.C.
515 POST OAK BLVD., SUITE 600
HOUSTON, TX 77027

MANUFACTURER: CLEARWATER INTERNATIONAL L.L.C.
100 INDUSTRIAL DRIVE
LEETSDALE, PA 15056

PRODUCT NAME: SUPER-100NE
PRODUCT CODE:FOA0911A
PRODUCT USE/CLASS:

MSDS REVISION DATE: 03/09/04

PREPARER: MJW

PHONE: 724-318-1050

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	EXPOSURE LIMITS	CAS#	% BY WEIGHT
ISOPROPYL ALCOHOL	ACGIH TLV – 400 ppm TWA, 500 ppm STEL OSHA PEL – 400 ppm TWA, 500 ppm CEILING	67-63-0	10-30 %
GLYCOL ETHERS	ACGIH TLV – 25 ppm TWA OSHA PEL – 25 ppm TWA	111-76-2	3-7 %

3. HAZARD IDENTIFICATION

EYE: Liquid, aerosols and vapors of this product may be irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes.

SKIN: May cause skin irritation. Allergic reactions are possible.

INGESTION: May be irritating to mouth, throat, and stomach.

INHALATION: Prolonged inhalation may be harmful or fatal. May be irritating to mucous membranes and lung tissue.

CHRONIC INFORMATION: Over exposure may cause central nervous system, kidney and liver damage.

PRIMARY ROUTE(S) OF ENTRY: Skin absorption, Inhalation, Ingestion, and Eye contact

4. FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention, if irritation persists.

SKIN CONTACT: Remove contaminated clothing. Wash with soap and water. Get medical attention if irritation develops or persists.

INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

INGESTION: If swallowed induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Contact a poison control center or medical personnel immediately.

5. FIRE FIGHTING MEASURES

Material Safety Data Sheet

SUPER-100NE

FLASH POINT: 80 F
(TAGLIABUE CLOSED CUP)

LOWER EXPLOSIVE LIMIT: 2%
UPPER EXPLOSIVE LIMIT: 12%

AUTOIGNITION TEMPERATURE: N.D.

EXTINGUISHING MEDIA: ALCOHOL FOAM CO2 DRY CHEMICAL FOAM WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may form explosive mixture with air. Flammable liquid. Can release vapors that form explosive mixtures at temperatures at or above the flashpoint. "Empty" containers retain product residue (liquid and /or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUS INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioned, or properly disposed of.

SPECIAL FIRE FIGHTING PROCEDURES: Containers can build up pressure if exposed to heat (fire). As in any fire, wear a self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Apply alcohol-type foam or all purpose foam by manufacturers recommended techniques for large fires. Use carbon dioxide or dry chemicals media for small fires. Use water spray to cool containers.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Extinguish any possible ignition source until the area is determined to be free from fire or explosion hazard. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. (See exposure controls / personal protection section) Spilled material should be disposed of according to applicable regulations.

7. HANDLING AND STORAGE

HANDLING: Handle all chemicals with care. Ground and bond containers when transferring materials.

STORAGE: Keep away from heat, sparks, and flames. Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their exposure limits.

RESPIRATORY PROTECTION: Use a NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge when airborne concentrations are expected to exceed exposure limits. Protection by air purifying respirators is limited.

SKIN PROTECTION: When contact is likely wear chemical resistant gloves and boots.

EYE PROTECTION: Wear safety glasses with side shields or goggles.

OTHER PROTECTIVE EQUIPMENT: Emergency eye wash stations and deluge showers should be available in the work area.

HYGIENIC PRACTICES: Wash hands before eating. Use only with adequate ventilation. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Yellow

ODOR: N.D.

BOILING POINT (RANGE): 180 F

FREEZE POINT: N.D.

VAPOR DENSITY: Is heavier than air

VAPOR PRESSURE: N.D.

PHYSICAL STATE: Liquid

SOLUBILITY IN WATER: N.D.

PH (AS IS): 6-8

SPECIFIC GRAVITY: 1.035

Material Safety Data Sheet

SUPER-100NE

10. STABILITY AND REACTIVITY DATA

CONDITIONS TO AVOID: Avoid temperature extremes. Excessive heat causes the vapor pressure to increase rapidly.

INCOMPATIBILITY: Avoid contact with base, chlorine, metal nitrates, heat, and fuming nitric acid. Avoid contact with strong acids and oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon.

HAZARDOUS POLYMERIZATION: Will not occur under normal use and storage conditions.

CHEMICAL STABILITY: This product is stable under normal storage conditions.

11. TOXICOLOGICAL INFORMATION

ORAL: No product information is available.

DERMAL: No product information is available.

INHALATION: No product information is available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No product information is available.

CHEMICAL FATE INFORMATION: No product information is available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Consult local, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations. Disposal in streams or sewers may be prohibited by federal, state, and local regulations.

RCRA STATUS: D001 –Characteristic of ignitability

14. TRANSPORTATION INFORMATION

(NON-BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Flammable Liquid, N.O.S.

D.O.T. TECHNICAL NAME: Contains Isopropanol

D.O.T. HAZARD CLASS: 3

HAZARD SUBCLASS: N/A

D.O.T. UN NUMBER: UN 1993

PACKING GROUP: III

RESP. GUIDE PAGE: 128

(BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Flammable Liquid, N.O.S.

D.O.T. TECHNICAL NAME: Contains Isopropanol

D.O.T. HAZARD CLASS: 3

HAZARD SUBCLASS: N/A

D.O.T. UN NUMBER: UN 1993

PACKING GROUP: III

RESP. GUIDE PAGE: 128

T.D.G. PROPER SHIPPING NAME: Flammable Liquid, N.O.S.

T.D.G. TECHNICAL NAME: Contains Isopropanol

T.D.G. HAZARD CLASS: 3

HAZARD SUBCLASS: N/A

T.D.G. UN NUMBER: UN 1993

PACKING GROUP: III

RESP. GUIDE PAGE: 128

IMDG PROPER SHIPPING NAME: Flammable Liquid, N.O.S.

IMDG TECHNICAL NAME: Contains Isopropanol

IMDG HAZARD CLASS: 3

HAZARD SUBCLASS: N/A

IMDG UN NUMBER: UN 1993

PACKING GROUP: III

EmS No.: F-E, S-D

Material Safety Data Sheet

SUPER-100NE

15. REGULATORY INFORMATION

CERCLA – SARA HAZARD CATEGORY:

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

FIRE HAZARD CHRONIC HEALTH HAZARD

SARA SECTION 313: This product contains the following substances 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:

<u>COMPONENT</u>	<u>CAS#</u>	<u>% BY WEIGHT</u>
Glycol Ethers	111-76-2	3-7 %

TSCA STATUS:

All components of this product are listed on the Toxic Substance Control Act Inventory or are excluded from the listing requirements.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: B-2, D-2B

CANADIAN ENVIRONMENTAL PROTECTION ACT:

All components of this product are listed on the Canadian Domestic Substance List (DSL).

16. OTHER INFORMATION

HMIS RATING – HEALTH: 2 **FLAMMABILITY:** 3 **REACTIVITY:** 0 **PERSONAL PROTECTIVE RATING:** G

LEGEND: N.A. – NOT APPLICABLE, N.E. - NOT ESTABLISHED, N.D. – NOT DETERMINED

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US, AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.



Material Safety Data Sheet

XL-8

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0
PERSONAL PROTECTION	B

24 hr. Emergency Contact (CHEMTREC) US Tel: 1- 800 - 424-9300 - Int'l. Tel. 703 - 527 - 3887

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER: CLEARWATER INTERNATIONAL L.L.C.
515 POST OAK BLVD., SUITE 600
HOUSTON, TX 77027

MANUFACTURER: CLEARWATER INTERNATIONAL L.L.C.
100 INDUSTRIAL DRIVE
LEETSDALE, PA 15056

PRODUCT NAME: XL-8
PRODUCT CODE: FRA5391C
PRODUCT USE/CLASS: Crosslinker

MSDS REVISION DATE: 11/25/03

PREPARER: MJW

PHONE: 724-318-1050

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	EXPOSURE LIMITS	CAS#	% BY WEIGHT
ETHYLENE GLYCOL	ACGIH TLV – 50 ppm STEL OSHA PEL – 50 ppm CEILING	107-21-1	10-30 %
PROPRIETARY COMPONENT	None Established	XXXX-XX-X	3-7 %

3. HAZARD IDENTIFICATION

EYE: Severely irritating. If not removed promptly, product will injure eye tissue, which may result in permanent damage.

SKIN: May cause skin irritation. Allergic reactions are possible.

INGESTION: This material may be harmful or fatal if swallowed. May be irritating to mouth, throat, and stomach.

INHALATION: Prolonged inhalation may be harmful. May be irritating to mucous membranes and lung tissue.

CHRONIC INFORMATION: Overexposure may cause nervous system damage, lung damage, kidney damage, or liver disorder and damage.

PRIMARY ROUTE(S) OF ENTRY: Ingestion

4. FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Get medical attention, if irritation persists.

SKIN CONTACT: Wash with soap and water. Get medical attention if irritation develops or persists.

INHALATION: Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

INGESTION: If swallowed induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Contact a poison control center or medical personnel immediately.

5. FIRE FIGHTING MEASURES

Material Safety Data Sheet

XL-8

FLASH POINT: >200 F
(TAGLIABUE CLOSED CUP)

LOWER EXPLOSIVE LIMIT: N.A.
UPPER EXPLOSIVE LIMIT: N.A.

AUTOIGNITION TEMPERATURE: N/A

EXTINGUISHING MEDIA: CO2 DRY CHEMICAL FOAM WATER FOG

UNUSUAL FIRE AND EXPLOSION HAZARDS: Empty containers retain product residue and can be dangerous.

SPECIAL FIRE FIGHTING PROCEDURES: As in any fire, wear a self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Absorb spill with inert material (e.g. dry sand or earth), then place into a chemical waste container. (See exposure controls / personal protection section) Spilled material should be disposed of according to applicable regulations.

7. HANDLING AND STORAGE

HANDLING: Wash thoroughly after handling.

STORAGE: Keep container closed when not in use. Store in a cool, dry, well ventilated place away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Local exhaust ventilation may be necessary to control any air contaminants to within their exposure limits.

RESPIRATORY PROTECTION: Use a NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge when airborne concentrations are expected to exceed exposure limits. Protection by air purifying respirators is limited.

SKIN PROTECTION: When contact is likely wear chemical resistant gloves and boots.

EYE PROTECTION: Wear safety glasses with side shields or goggles.

OTHER PROTECTIVE EQUIPMENT: Emergency eye wash stations and deluge showers should be available in the work area.

HYGIENIC PRACTICES: Wash hands before eating. Use only with adequate ventilation. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Lt. yellow

ODOR: N.D.

BOILING POINT (RANGE): 339-387 F

FREEZE POINT: N.D.

VAPOR DENSITY: N/D

VAPOR PRESSURE: N/A

PHYSICAL STATE: Liquid

SOLUBILITY IN WATER: Complete

PH (AS IS): 6-8

SPECIFIC GRAVITY: 1.1050

10. STABILITY AND REACTIVITY DATA

CONDITIONS TO AVOID: Avoid temperature extremes.

INCOMPATIBILITY: Avoid contact with strong acids and bases.

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HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen.

HAZARDOUS POLYMERIZATION: Will not occur under normal use and storage conditions.

CHEMICAL STABILITY: This product is stable under normal storage conditions.

11. TOXICOLOGICAL INFORMATION

ORAL: No product information is available.

DERMAL: No product information is available.

INHALATION: No product information is available.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No product information is available.

CHEMICAL FATE INFORMATION: No product information is available.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Consult local, state, or federal regulatory agencies for acceptable disposal procedures and disposal locations. Disposal in streams or sewers may be prohibited by federal, state, and local regulations.

RCRA STATUS: Not determined.

14. TRANSPORTATION INFORMATION

(NON-BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Not Regulated

D.O.T. TECHNICAL NAME: Non-hazardous for D.O.T. purposes

D.O.T. HAZARD CLASS: N/A

HAZARD SUBCLASS: N/A

D.O.T. UN NUMBER: N/A

PACKING GROUP: N/A

RESP. GUIDE PAGE: N/A

(BULK SHIPMENTS)

D.O.T. PROPER SHIPPING NAME: Not Regulated

D.O.T. TECHNICAL NAME: Non-hazardous for D.O.T. purposes

D.O.T. HAZARD CLASS: N/A

HAZARD SUBCLASS: N/A

D.O.T. UN NUMBER: N/A

PACKING GROUP: N/A

RESP. GUIDE PAGE: N/A

T.D.G. PROPER SHIPPING NAME: Not Regulated

T.D.G. TECHNICAL NAME: Non-hazardous for D.O.T. purposes

T.D.G. HAZARD CLASS: N/A

HAZARD SUBCLASS: N/A

T.D.G. UN NUMBER: N/A

PACKING GROUP: N/A

RESP. GUIDE PAGE: N/A

IMDG PROPER SHIPPING NAME: Not Regulated

IMDG TECHNICAL NAME: Non-hazardous for D.O.T. purposes

IMDG HAZARD CLASS: N/A

HAZARD SUBCLASS: N/A

IMDG UN NUMBER: N/A

PACKING GROUP: N/A

EmS No.: N/A

15. REGULATORY INFORMATION

CERCLA – SARA HAZARD CATEGORY:

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

IMMEDIATE HEALTH HAZARD

SARA SECTION 313: This product contains the following substances 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:

COMPONENT	CAS#	% BY WEIGHT
Ethylene Glycol	107-21-1	10-30 %

TSCA STATUS:

All components of this product are listed on the Toxic Substance Control Act Inventory or are excluded from the listing requirements.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

CANADIAN WHMIS CLASS: D-2B

CANADIAN ENVIRONMENTAL PROTECTION ACT:

All components of this product are listed on the Canadian Domestic Substance List (DSL).

16. OTHER INFORMATION

HMIS RATING – HEALTH: 1 **FLAMMABILITY:** 1 **REACTIVITY:** 0 **PERSONAL PROTECTIVE RATING:** B

LEGEND: N.A. – NOT APPLICABLE, N.E. - NOT ESTABLISHED, N.D. – NOT DETERMINED

THIS PRODUCT'S HEALTH AND SAFETY INFORMATION IS PROVIDED TO ASSIST OUR CUSTOMERS IN ASSESSING COMPLIANCE WITH HEALTH, SAFETY AND ENVIRONMENTAL REGULATIONS. THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE TO US, AND IS BELIEVED TO BE ACCURATE, ALTHOUGH NO GUARANTEE OR WARRANTY IS PROVIDED OR IMPLIED BY THE COMPANY IN THIS RESPECT. SINCE THE USE OF THIS PRODUCT IS WITHIN THE EXCLUSIVE CONTROL OF THE USER, IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE CONDITIONS OF SAFE USE. SUCH CONDITIONS MUST COMPLY WITH ALL GOVERNMENTAL REGULATIONS.