PART I

What is the material and what do I need to know in an emergency?

1. PRODUCT IDENTIFICATION

IDENTIFICATION of the SUBSTANCE or PREPARATION

<table>
<thead>
<tr>
<th>TRADE NAME (AS LABELED):</th>
<th>KlereSeal® 9100-S</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT DESCRIPTION:</td>
<td>VOC Compliant Silane Penetrating Clear Sealer</td>
</tr>
<tr>
<td>CHEMICAL NAME/CLASS:</td>
<td>Solvent/Alkylalkoxysilane Mixture</td>
</tr>
<tr>
<td>SYNONYMS:</td>
<td>None</td>
</tr>
<tr>
<td>RELEVANT USE:</td>
<td>Penetrating Sealer</td>
</tr>
<tr>
<td>USES ADVISED AGAINST:</td>
<td>Other Than Relevant Use</td>
</tr>
</tbody>
</table>

COMPANY/UNDERTAKING IDENTIFICATION:

<table>
<thead>
<tr>
<th>SUPPLIER/MANUFACTURER'S NAME:</th>
<th>Pecora Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS:</td>
<td>165 Wambold Road, Harleysville, PA 19438</td>
</tr>
<tr>
<td>EMERGENCY PHONE:</td>
<td>800-424-9300 (CHEMTREC, 24-hours)</td>
</tr>
<tr>
<td>BUSINESS PHONE:</td>
<td>215-723-6051 (Mon–Fri, 8 AM–5 PM ET)</td>
</tr>
<tr>
<td>PREPARATION DATE:</td>
<td>August 2008</td>
</tr>
<tr>
<td>REVISION DATE:</td>
<td>April 17, 2013</td>
</tr>
</tbody>
</table>

This product is sold for commercial use. This SDS has been developed to address safety concerns of those individuals working with bulk quantities of this material, as well as those of potential users of this product in industrial/occupational settings. All United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, and Canadian WHMIS [Controlled Products Regulations] and the Global Harmonization Standard required information is included in appropriate sections based on the U.S. ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the countries listed above.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: This product has been classified per GHS Standards.

Classification: Combustible Liquid Cat. 4, Skin Irritation Cat. 2, Eye Irritation Cat. 2B, STOT (Inhalation-Respiratory Irritation) SE Cat. 3

Signal Word: Danger

Hazard Statement Codes: H227, H315, H319, H335


Hazard Symbols/Pictograms: GHS07, GHS08

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: This product is a clear, colorless to pale yellow, combustible liquid with a mild odor.

HEALTH HAZARDS: WARNING! Combustible liquid. This product may cause respiratory, skin and eye irritation. Harmful or fatal if swallowed. May cause toxic systemic effects by skin absorption. Exposure may cause adverse central nervous system effects. Contains a trace compound that is suspect carcinogen.

FLAMMABILITY HAZARD: This product is combustible and can ignite if exposed to temperature above its flash point 65°C (149°F) or direct flame.

REACTIVITY HAZARD: This product may have some reactivity to water.

ENVIRONMENTAL HAZARD: This product has not been tested for environmental impact. All release to the environment should be avoided.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS®)

<table>
<thead>
<tr>
<th>Health</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>2</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td>1</td>
</tr>
</tbody>
</table>

See Section 16 for definitions of ratings

0 = Minimal  1 = Slight  2 = Moderate  3 = Serious  4 = Severe  * = Chronic

HMIS® is a registered trademark of the National Paint and Coatings Association.

CANADIAN WHMIS CLASSIFICATION: D2B and Class B3. See Section 15 (Regulatory Information) for all classification details.

U.S. OSHA REGULATORY STATUS: This material is classified as hazardous under OSHA regulations.
3. COMPOSITION AND INFORMATION ON INGREDIENTS (Continued)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>W/W%</th>
<th>GHS Classification Hazard Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethoxyoctylsilane</td>
<td>2943-75-1</td>
<td>50.0-70.0</td>
<td>SELF CLASSIFICATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Classification: Skin Irritation Cat. 2, Eye Irritation Cat. 2B, STOT (Inhalation-Respiratory Irritation) SE Cat. 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hazard Statement Codes: H225, H332</td>
</tr>
<tr>
<td>Branched Octyltriethoxysilanes</td>
<td>Mixture</td>
<td>1.0-3.0</td>
<td>SELF CLASSIFICATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Classification: Skin Irritation Cat. 2, Eye Irritation Cat. 2B, STOT (Inhalation-Respiratory Irritation) SE Cat. 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hazard Statement Codes: H225, H332</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>0.1-0.6</td>
<td>Classification: Flammable Liquid Cat. 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hazard Statement Codes: H225</td>
</tr>
<tr>
<td>Other Compounds</td>
<td>Proprietary Balance</td>
<td></td>
<td>Classification: Not Applicable</td>
</tr>
</tbody>
</table>

See Section 16 for full text of Ingredient Hazard and Precautionary Statements

PART II  What should I do if a hazardous situation occurs?

4. FIRST-AID MEASURES

PROTECTION OF FIRST AID RESPONDERS: Rescuers should not attempt to retrieve victims of exposure to this material without adequate personal protective equipment. Rescuers should be taken for medical attention, if necessary. Fire protective gear may be necessary.

DESCRIPTION OF FIRST AID MEASURES: Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Remove and isolate contaminated clothing and shoes. Seek immediate medical attention. Take copy of label and SDS to physician or other health professional with victim(s).

INHALATION: If mists, sprays or fumes of this material are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

SKIN EXPOSURE: If the material contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 20 minutes. Do not interrupt flushing. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention.

EYE EXPOSURE: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 20 minutes. Do not interrupt flushing.

INGESTION: If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directly by medical personnel. Have victim rinse mouth with water or give several cupfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions, and central nervous system conditions or skin problems may be aggravated by exposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT (closed cup): 65°C (149°F)

AUTOIGNITION: Not known for product.

FLAMMABLE LIMITS IN AIR: Not known for product.

EXTINGUISHING MEDIA:

SUITABLE EXTINGUISHING MEDIA: Use materials appropriate for surrounding materials.

UNSUITABLE EXTINGUISHING MEDIA: None known.

PROTECTION OF FIREFIGHTERS:

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE: This is a combustible liquid. Not sensitive to mechanical impact under normal conditions. Vapors may form explosive mixtures in air. Vapors are heavier than air and can accumulate in confined spaces creating an explosion hazard. Vapors can travel long distances and flashback to ignition source. Closed containers may develop pressure and rupture in event of fire.

SPECIAL PROTECTIVE ACTIONS FOR FIREFIGHTERS: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: An accidental release can result in a fire. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Use only non-sparking tools and equipment during the response. The atmosphere must at least 19.5 percent Oxygen before non-emergency personnel can be allowed in the area without Self-Contained Breathing Apparatus and fire protection.
PART III  How can I prevent hazardous situations from occurring?

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Use only with adequate ventilation. Contaminated clothing needs to be laundered prior to reuse. Keep away from heat and flame. In the event of a spill, follow practices indicated in Section 6: ACCIDENTAL RELEASE MEASURES. Empty containers may contain residual product; therefore, empty containers should be handled with care. Stand upwind of all opening, pouring and mixing operations. Keeping work areas clean is essential. Use work surfaces that can be easily decontaminated. Maintain good personal hygiene.

CONDITIONS FOR SAFE STORAGE: Keep container tightly closed when not in use. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Material should be stored in secondary containers or in a diked area, as appropriate. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Containers should be separated from oxidizing materials by a minimum distance of 20 ft. or by a barrier of non-combustible material at least 5 ft. high having a fire-resistance rating of at least 0.5 hours. Storage areas should be made of fire resistant materials. Local Fire Departments should be notified of the storage of this product on site. Storage and processing areas of this product should be identified with a NFPA 704 placard (diamond) large enough to be seen from a distance. Post warning and “NO SMOKING” signs in storage and use areas, as appropriate. Refer to NFPA 30, Flammable and Combustible Liquids Code, for additional information on storage. Have appropriate extinguishing equipment in the storage area (such as sprinkler systems or portable fire extinguishers). Inspect all incoming containers before storage to ensure containers are properly labeled and not damaged.

PRODUCT USE: This product is used as a penetrating sealant. Follow all industry standards for use of this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>Guideline</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branched Octyltriethoxysilanes</td>
<td>Mixture</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Ethanol</td>
<td>67-14-5</td>
<td>OSHA STEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA TWA</td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH TWA</td>
<td>1000 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFG TWA</td>
<td>500 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFG PEAK</td>
<td>2 MAK 15 minute average value, 1 hr interval 4 per shift</td>
</tr>
<tr>
<td>Triethoxycetylsilane</td>
<td>2943-75-1</td>
<td>NE</td>
<td>NE</td>
</tr>
</tbody>
</table>

NE = Not Established.  See Section 16 for Definitions of Terms Used.

VENTILATION AND ENGINEERING CONTROLS: Use with adequate, explosion proof ventilation to ensure exposure levels are maintained below the limits provided above.
8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EYE/FACE PROTECTION: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations.
SKIN PROTECTION: Wear chemical impervious gloves (e.g., Nitrile or Neoprene). Use triple gloves for spill response. If necessary, refer to appropriate regulations.
BODY PROTECTION: Use body protection appropriate for task (e.g., lab coat, coveralls, Tyvek suit). If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) or appropriate Standards of Canada. If a hazard to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee’s feet may be exposed to electrical hazards, use foot protection, as described in appropriate regulations.
RESPIRATORY PROTECTION: If mists or sprays from this product are created during use, use appropriate respiratory protection. If necessary, use only respiratory protection authorized in appropriate regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under appropriate regulations.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Liquid.
MOLECULAR WEIGHT: Mixture.
ODOR: Characteristic of alcohol.
VAPOR DENSITY: (air = 1) > 1
BOILING POINT: Not available
FREEZING/MELTING POINT: Not available.
SPECIFIC GRAVITY (water = 1) @ 25°C: 0.875
SOLUBILITY IN WATER: Soluble
COEFFICIENT WATER/OIL DISTRIBUTION: Not available.
PERCENT VOC: Not available.
VISCOITY: 1 cSt

HOW TO DETECT THIS SUBSTANCE (WARNING PROPERTIES): There odor and appearance of this product may be characteristic to identify it in the event of accidental release.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under normal circumstances of use and handling.
CONDITIONS TO AVOID: Avoid contact with incompatible chemicals and exposure to extreme temperatures.
INCOMPATIBLE MATERIALS: Based upon component incompatibility, this product may be incompatible with strong oxidizing agents, strong acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Combustion; Thermal decomposition of this product can generate carbon monoxide, carbon dioxide, formaldehyde and unstable peroxides. Hydrolysis: Ethanol.
POSSIBILITY OF HAZARDOUS REACTIONS/POLYMERIZATION: Not expected to occur.

PART IV  Is there any other useful information about this material?

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS: The most significant routes of occupational exposure are inhalation and contact with skin and eyes.
The symptoms of exposure to this product are as follows:
CONTACT WITH SKIN or EYES: Depending on the duration of skin contact, skin exposure can cause reddening, discomfort or irritation. Brief contact with the liquid or vapors from this product and the eyes can cause irritation, reddening and watering and disturbances to the vision. Eye contact may cause more severe irritation, depending on the duration and concentration of exposure.
SKIN ABSORPTION: Prolonged skin contact may cause adverse systemic toxicity by skin absorption as described under ingestion or inhalation.
INGESTION: If the product is swallowed, it can irritate the mouth, throat, and other tissues of the gastro-intestinal system and may cause nausea, vomiting, and diarrhea as well as adverse effects on the central nervous system. Symptoms can include dizziness, vomiting and incoordination. Ingestion of large amounts may be harmful and cause systemic toxicity.
INHALATION: Inhalation of vapors, mists, or sprays of this product can moderately irritate the tissues of the nose, mouth, throat, and upper respiratory system. Symptoms of exposure may include coughing, sneezing, and difficulty breathing. Inhalation can also lead to adverse central nervous system effects, including dizziness, incoordination, nausea and vomiting. High aerosol concentrations could cause severe irritation, inflammation of the lungs (chemical pneumonitis), chemical bronchitis with severe asthma-like wheezing, severe coughing spasms and accumulation of fluid in the lungs (pulmonary edema), which could prove fatal. Symptoms of pulmonary edema may not appear until several hours after exposure and are aggravated by physical exertion.
INJECTION: Accidental injection of this product (e.g. puncture with a contaminated object) may cause burning, redness, and swelling in addition to the wound.
TARGET ORGANS: Acute: Skin, eyes, respiratory system. Chronic: Skin, respiratory and central nervous systems, kidneys.
11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA: There are currently no toxicity data available for this product; the following toxicity data are available for components greater than 1% in concentration.

**TRIETHOXYOCTYLSILANE:**
- LD$_{50}$ (Oral-Rat) 10,060 µL/kg
- LD$_{50}$ (Skin-Rabbit) 5910 µL/kg

**CARCINOGENIC POTENTIAL:** The following table summarizes the carcinogenicity listing for the components of this product. “NO” indicates that the substance is not considered to be or suspected to be a carcinogen by the listed agency, see section 16 for definitions of other ratings.

<table>
<thead>
<tr>
<th>CHEMICAL</th>
<th>IARC</th>
<th>EPA</th>
<th>NTP</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>PROP 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branched Octyltriethoxysilanes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Ethanol</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>A3</td>
<td>No</td>
</tr>
<tr>
<td>Triethoxyoctylsilane</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

ACGIH TLV A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans.

IRRITANCY OF PRODUCT: This product is irritating by all routes of exposure.

SENSITIZATION TO THE PRODUCT: This product is not expected to cause sensitization effects.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: None known.

REPRODUCTIVE TOXICITY INFORMATION: This product has not been tested for reproductive toxicity.

BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, no BEIs have been established for components.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil. It is expected to be mobile.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential. No values are available for components.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All release to terrestrial, atmospheric and aquatic environments should be avoided.

OTHER ADVERSE EFFECTS: This material is not expected to have any ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: As supplied, this product would not be a hazardous waste as defined by U.S. federal regulation (40 CFR 261) if discarded or disposed. State and local regulations may differ from federal regulations. The generator of the waste is responsible for proper waste determination and management.

U.S. EPA WASTE NUMBER: Wastes of this product should be tested to see if they meet the criteria of D001 (Ignitability characteristic).

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: This product is classified as Dangerous Goods, per U.S. DOT regulations, under 49 CFR 172.101. NOTE: This product is regulated by transportation only for domestic shipments in the United States and is only applicable when shipped in containers above 119 gallon (450 liters). The following classification is not applicable under other jurisdictions.

| UN IDENTIFICATION NUMBER: | NA 1993 |
| PROPER SHIPPING NAME:     | Combustible liquid, n.o.s. (Alkoxysilane) |
| HAZARD CLASS NUMBER and DESCRIPTION: | Not Applicable |
| PACKING GROUP:             | PG III |
| DOT LABEL(S) REQUIRED:     | None |

MARINE POLLUTANT: The components of this product not classified by the DOT as a Marine Pollutant (as defined by 49 CFR 172.101).

TRANSITP CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is NOT classified as dangerous goods, per the International Air Transport Association.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is NOT classified as dangerous goods, per the International Maritime Organization.

15. REGULATORY INFORMATION

ADDITIONAL U.S. REGULATIONS:

U.S. SARA REPORTING REQUIREMENTS: No component of this product is subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA HAZARD CATEGORIES (SECTION 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: No; FIRE: Yes; REACTIVE: No; SUDDEN RELEASE: No

U.S. TSCA INVENTORY STATUS: All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

U.S. CERCLA REPORTABLE QUANTITY (RQ): Not applicable.
ADDITIONAL U.S. REGULATIONS:
U.S. CLEAN AIR ACT (CA 12n) THRESHOLD QUANTITY (TQ): Not applicable.
U.S. CLEAN WATER ACT REQUIREMENTS: Not applicable.
CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65): The ethanol component is on the California Proposition 65 lists, but only when it applies to alcoholic beverages.

ADDITIONAL CANADIAN REGULATIONS:
CANADIAN DSL/NDSL INVENTORY STATUS: The components of this product are on the DSL Inventory.
CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITIES SUBSTANCES LISTS: No applicable.
CANADIAN WHMIS REGULATIONS: This product is classified as a Controlled Product, Hazard Classes B3 (Combustible Liquid); and D2B (Poisonous and Infectious Material, Other effects/Toxic: Eye, Respiratory, Skin Irritation) as per the Controlled Product Regulations.

ADDITIONAL MEXICAN REGULATIONS:
MEXICAN WORKPLACE REGULATIONS (NOM-018-STPS-2000): This product is classified as hazardous.
U.S. ANSI STANDARD LABELING (Precautionary Statements): WARNING! COMBUSTIBLE LIQUID. MAY BE HARMFUL IF INHALED OR INGESTED. MAY CAUSE EYE, SKIN AND RESPIRATORY IRRITATION; EYE IRRITATION MAY BE MORE SEVERE. VAPORS MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. CONTAINS TRACE COMPOUND THAT IS SUSPECT CARCINOGEN. Avoid contact with eyes, skin, and clothing. Avoid breathing mist, vapors or fume. Do not taste or swallow. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Keep away from heat and flame. Wear gloves, eye protection, respiratory protection, and appropriate body protection. FIRST-AID: In case of contact, immediately flush skin and eyes with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention. IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO2.

GLOBAL HARMONIZATION SYSTEM CLASSIFICATION:
Classification: Combustible Liquid Category 4, Skin Irritation Category 2, Eye Irritation Category 2B, Specific Target Organ Toxicity (Inhalation-Central Nervous System, Respiratory Irritation) Single Exposure Category 2, Specific Target Organ Toxicity (Inhalation-Central Nervous System) Single Exposure Category 3
Signal Word: Danger
Precautionary Statements:
Response: P370 + P378: In case of fire: Use materials appropriate for surrounding fire for extinction. P304 + P340: If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. P312: Call a POISON CENTER or doctor/physician if you feel unwell. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P332 + P313: If skin irritation occurs, get medical attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P321: Specific treatment (remove from exposure and treat symptoms).
Disposal: P501: Dispose of contents/container in accordance with all local, regional, national and international regulations.
Hazard Symbols/Pictograms: GH07, GH08

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES
The information presented in this Material Safety Data Sheet is presented in good faith based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale.
All materials may present hazards and should be used with caution. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices or applicable federal, state, or local laws or regulations. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.
REFERENCES AND DATA SOURCES: Contact the supplier for information.
METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Bridging principles were used to classify this product.
REVISION DETAILS: October 2012: Up-date and revise entire SDS to include current GHS requirements, change in formulation. March 2013: Revise flash point. Up-date of entire SDS to reflect flash point change.

DATE OF PRINTING: April 17, 2013
DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Of these, some which are commonly used, include the following:

KEY ACRONYMS:
CHEMTREC: Chemical Transportation Emergency Center, a 24-hour emergency information and/or emergency assistance to emergency responders.
CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure Limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

DFG MAKs: Rating Categories: 1: Very toxic; substances that have been shown to have a toxic effect in acute experiments conducted in vivo; 2: Toxic; substances that have been shown to have a toxic effect in acute or sub-acute experiments conducted in vivo; 3: Slightly toxic; substances that have been shown to have a toxic effect in repeated experiments conducted in vivo; 4: Non-toxic; substances that have been shown to have no toxic effect in repeated experiments conducted in vivo.

Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes. 1 Slight Hazard: Materials that must be rated as a 1 if exposure conditions can occur which can cause a temperature condition which will cause a fire when ignited. 2 Moderate Hazard: Materials that must be rated as a 2 if the exposure conditions can occur which will result in a temperature condition that will cause a fire when ignited. 3 Severe Hazard: Materials that must be rated as a 3 if the exposure conditions can occur which will result in a temperature condition that will cause a fire when ignited.

Pyrophorics: Materials that may cause the release of sufficient energy to cause significant heat generation or explosion.

Pyrophorics: Materials that are normally stable, even under fire conditions and will not react with water.

Water Reactivity: Substances that do not react with water.

Water Reactivity: Substances that may react violently with water.

Water Reactivity: Substances that readily undergo hazardous polymerization in the absence of initiators.

Water Reactivity: Materials that react explosively with water.

Unstable Reactives: Materials that change or decompose upon exposure to heat, light, moisture, or under any combination of these.

Unstable Reactives: Substances that will not polymerize, decompose, or self-react under pressure and normal temperature, but are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air; Liquids and solids that may not be dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids); and Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g., dry nitrocatechol and many organic peroxides).

Hazardous Materials: Identification System Hazard Ratings (continued):

Flammability Hazard: 0 Minimal Hazard: Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes. 1 Slight Hazard: Materials that must be rated as a 1 if exposure conditions can occur which can cause a fire when ignited. 2 Moderate Hazard: Materials that must be rated as a 2 if the exposure conditions can occur which will result in a fire when ignited. 3 Severe Hazard: Materials that must be rated as a 3 if the exposure conditions can occur which will result in a fire when ignited.

Chemical Hazards: Materials that will burn in air when exposed to a temperature of 1093.8°C (2000°F) for a period of 5 minutes.

Chemical Hazards: Materials that must be rated as a 1 if exposure conditions can occur which can cause a fire when ignited. 2 Moderate Hazard: Materials that must be rated as a 2 if the exposure conditions can occur which will result in a fire when ignited. 3 Severe Hazard: Materials that must be rated as a 3 if the exposure conditions can occur which will result in a fire when ignited.
DEFINITIONS OF TERMS (Continued)

National Fire Protection Association Hazard Ratings: (Continued)

Flammability Hazard (Continued): 4 Materials that will rapidly or completely vaporize at ambient pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable. Flammable cryogenic materials. Any liquid or gaseous materials that are cryogenic liquids under normal conditions and have a vapor pressure at a flash point of below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

Instability Hazard: 0 Materials that in themselves are normally stable, even under fire conditions. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry. 1 Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL, and below 10 W/mL. 2 Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100 W/mL. 3 Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to localized thermal or mechanical shock at elevated temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater.

Flammability Limits in Air: The lower limit of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). Flash Point: Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. Minimum ignition Temperature: Minimum temperature at which materials capable of self-sustained combustion in air with no other source of ignition. LEL: Lowest concentration of a flammable vapor or gas/mixture that will ignite and burn with a fuel. FUEL: Highest concentration of a flammable vapor or gas/mixture that will ignite and burn with a flame.

Toxicological Information:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. LD50: Lethal Dose (solids & liquids) that kills 50% of the exposed animals. LC50: Lethal Concentration (gasses) that kills 50% of the exposed animals. ppm: Concentration expressed in parts per million of air or water. mg/L: Concentration expressed in weight of substance per volume of air. mg/kg: Quantity of material ingested or inhaled. RT40: Time required for half-life of material used on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subfractions (2A, 2B, etc.) are also used. Other Information: BCF: Bioaccumulation Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

Reproductive Information: A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxic is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.