SAFETY DATA SHEET

PECORA P-225 PRIMER

1. PRODUCT IDENTIFICATION

IDENTIFICATION of the SUBSTANCE or PREPARATION

<table>
<thead>
<tr>
<th>TRADE NAME (AS LABELED):</th>
<th>PECORA P-225 Primer</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT DESCRIPTION:</td>
<td>Primer</td>
</tr>
<tr>
<td>CHEMICAL NAME/CLASS:</td>
<td>Aliphatic Solvent Polymer Mixture</td>
</tr>
<tr>
<td>SYNONYMS:</td>
<td>None</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>April 2009</td>
</tr>
<tr>
<td>REVISION DATE:</td>
<td>May 10, 2017</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, Canadian WHMIS 2015 and the Global Harmonization required information is included in appropriate sections based on the Global Harmonization Standard format. This product has been classified in accordance with the hazard criteria of the countries listed above and the SDS contains all the information required by the Canadian WHMIS 2015 [HPR-GHS], the Global Harmonization Standard and OSHA 1910.120.

2. HAZARD IDENTIFICATION


Classification: Flammable Liquid Cat. 3, Acute Inhalation Toxicity Cat. 3, Acute Dermal Toxicity Cat. 4, Acute Oral Toxicity Cat. 4, Eye Irritation Cat. 2A, Skin Irritation Cat. 2, STOT (Inhalation-Respiratory Irritation) Cat. 3, Respiratory Sensitization Cat. 1, Skin Sensitization Cat. 1

Signal Word: Danger

Hazard Statement Codes: H226, H331, H312, H303, H315, H319, H335, H334, H317


Hazard Symbols/Pictograms: GHS02, GHS07, GHS08

EMERGENCY OVERVIEW:

Physical Description: This product is a colorless, highly flammable liquid with a sweet, aromatic odor.

Health Hazards: DANGER! Flammable liquid. This product may cause respiratory, skin and eye irritation. Eye irritation may severe, depending on duration and concentration of exposure. Harmful or fatal if swallowed. May cause toxic systemic effects by skin absorption. Exposure may cause adverse central nervous system effects. Can cause skin and respiratory sensitization and allergic reaction in susceptible individuals. Contains compound that is a suspect teratogen and carcinogen.

Flammability Hazard: This product is flammable and can ignite if exposed to high temperature or direct flame.

Reactivity Hazard: This product may have some sensitivity to water. Heating of closed containers may cause violent rupture. Closed containers may develop pressure and rupture on prolonged exposure to heat or if contaminated with 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></th>
<th></th>
<th>2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td></td>
<td>See Section 16 for definitions of ratings</td>
</tr>
<tr>
<td>Flammability</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Physical Hazard</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

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

CANADIAN WHMIS (HPR-GHS) 2015 CLASSIFICATION AND SYMBOLS: See Section 16 for in Classification and Symbols under HPR-GHS 2015.

U.S. OSHA REGULATORY STATUS: This material has a classification under the Global Harmonization Standard, as applied under OSHA regulations, as given earlier in this Section.
3. COMPOSITION AND INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>W/W%</th>
<th>LABEL ELEMENTS</th>
<th>GHS Classification under U.S. OSHA Hazard Communication Standard &amp; Canadian WHMIS (HPR-GHS) 2015 Hazard Statement Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>1330/20-7</td>
<td>40-60</td>
<td></td>
<td>HARMONISED CLASSIFICATION - ANNEX VI OF REGULATION (EC) NO 1272/2008 (CLP REGULATION)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Classification: Flammable Liquid Cat. 2, Acute Dermal Toxicity Cat. 4, Acute Inhalation Toxicity Cat. 4, Skin Irritation Cat. 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hazard Statement Codes: H225, H312 + H332, H315</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ADDITIONAL SELF-CLASSIFICATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Classification: Acute Oral Toxicity Cat. 5, Eye Irritation Cat. 2A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hazard Statement Codes: H303, H319</td>
</tr>
<tr>
<td>Dicyclohexylmethane-4,4'-Diisocyanate</td>
<td>5124-30-1</td>
<td>10-20</td>
<td></td>
<td>HARMONISED CLASSIFICATION - ANNEX VI OF REGULATION (EC) NO 1272/2008 (CLP REGULATION)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Classification: Acute Inhalation Toxicity Cat. 3, Skin Irritation Cat. 2, Eye Irritation Cat. 2A, Skin Sensitization Cat. 1B, Respiratory Sensitization Cat. 1B, STOT (Inhalation-Respiratory Irritation) SE Cat. 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hazard Statement Codes: H331, H315, H319, H317, H334, H335</td>
</tr>
<tr>
<td>Proprietary Butylamine Cross-Linker</td>
<td></td>
<td>10-20</td>
<td>NOTIFIED CLASSIFICATION</td>
<td>Classification: Acute Dermal Toxicity Cat. 4, Skin Corrosion Cat. 1B, Skin Sensitization Cat. 1A, Aquatic Acute Toxicity Cat. 2, Aquatic Chronic Cat. 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hazard Statement Codes: H312, H314, H317, H401, H411</td>
</tr>
<tr>
<td>Proprietary Propoxylated Polymer</td>
<td></td>
<td>5-10</td>
<td>Classification: Not Applicable</td>
<td></td>
</tr>
<tr>
<td>Proprietary Polyether Diol</td>
<td></td>
<td>2-5</td>
<td>Classification: Not Applicable</td>
<td></td>
</tr>
<tr>
<td>Proprietary Amine Cross-Linker</td>
<td></td>
<td>0.1-0.9</td>
<td>NOTIFIED CLASSIFICATION</td>
<td>Classification: Acute Dermal Toxicity Cat. 4, Skin Corrosion Cat. 1B, Skin Sensitization Cat. 1A, Aquatic Acute Toxicity Cat. 2, Aquatic Chronic Cat. 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hazard Statement Codes: H312, H314, H317, H401, H411</td>
</tr>
<tr>
<td>Other trace components</td>
<td></td>
<td>Balance</td>
<td>Classification: Not Applicable</td>
<td></td>
</tr>
</tbody>
</table>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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.

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 aerosols 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 cupsfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Acute or chronic respiratory conditions, skin 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: 23.3°C (74°F)

AUTOIGNITION: Not known for product. For Xylenes: 464°C (867°F)

FLAMMABLE LIMITS IN AIR: Not known for product.

For Xylenes: LEL: 1.0% UEL: 7.0%

EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use materials appropriate for surrounding materials. May react vigorously with water at high temperatures. Closed containers may rupture violently when heated.

Unsuitable Extinguishing Media: Water.

PROTECTION OF FIREFIGHTERS:

Special Hazards Arising From the Product: This is a highly flammable 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 a toxicity and explosion hazard. Vapors can travel long distances and flashback to ignition source. Closed containers may develop pressure and rupture in event of fire or if contaminated with water.

Special Protective Actions for Fire-Fighters: 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.

NFPA RATING
FLAMMABILITY
HEALTH
INSTABILITY
OTHER
See Section 16 for Definitions of Ratings

Pecora P-225 Primer Page 2 of 11 May 10, 2017
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.

PERSONAL PROTECTIVE EQUIPMENT: Responders should wear the level of protection appropriate to the type of chemical released, the amount of the material spilled, and the location where the incident has occurred.

6. ACCIDENTAL RELEASE MEASURES (Continued)

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: An accidental release may 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. Avoid contact with water.

PERSONAL PROTECTIVE EQUIPMENT: Responders should wear the level of protection appropriate to the type of chemical released, the amount of the material spilled, and the location where the incident has occurred.

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: Responders should be restricted. Spread should be limited by gently covering the spill with polypads. Absorb spilled liquid with clay, sand, poly pads, or other suitable inert absorbent materials. All contaminated absorbents and other materials should be placed in an appropriate container and seal. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). Dispose of recovered material and report spill per regulatory requirements. Remove all residue before decontamination of spill area. Clean spill area with soap and copious amounts of water. Monitor area for combustible vapor levels and confirm levels are below exposure limits given in Section 8 (Exposure Controls - Personal Protection), if applicable, and that levels are below applicable LELs (see Section 5 – Fire Fighting Measures) before non-response personnel are allowed into the spill area. Purge equipment with inert gas prior to reuse.

ENVIRONMENTAL PRECAUTIONS: Minimize use of water to prevent environmental contamination. Prevent spill or rinse from contaminating storm drains, sewers, soil or groundwater. Place all spill residues in a suitable container and seal. Do not discharge effluent containing this product into streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

OTHER INFORMATION: U.S. regulations may require reporting of spills of this material that reach surface waters if a sheen is formed. If necessary, the toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

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, vapors or mist. Do not taste or swallow. Use only with adequate ventilation. Wash hands after handling this product. 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. Decontaminate empty containers by filling with water or a solution of ammonium hydroxide (0-10%), detergent (2-5%), isopropanol (0-20%: may create a fire or vapor hazard in some situations, e.g. confined spaces; if so, do not use), water (balance of solution). Heat and CO2 gas are released when isocyanates reacts with water or solution. Let stand uncovered or loosely covered for at least 24 hours. Decontaminate (using above solution) and clean isocyanate handling equipment after use. 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. Empty containers may contain residual product; therefore, empty containers should be handled with care. Store container below 27°C (80°F) to avoid possible reactions related to heat and overpressure of containers.

PRODUCT USE: This product is used as a primer. Follow all industry standards for use of this product.
8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:
Ventilation and Engineering Controls: Use with adequate, explosion proof ventilation to ensure exposure levels are maintained below the limits provided above.
Occupational/Workplace Exposure Limits/Guidelines:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>Guideline</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proprietary Butylamine Cross-Linker</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Dicyclohexylmethane-4,4'-diisocyanate</td>
<td>5124-30-1</td>
<td>ACGIH TLV TWA</td>
<td>0.054 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL STEL</td>
<td>0.01 mg/m³ (ceiling)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFG MAK</td>
<td>Danger of Skin Sensitization</td>
</tr>
<tr>
<td>Proprietary Polyether Diol</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Proprietary Amine Cross-Linker</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Proprietary Propoxylated Polymer</td>
<td>NE</td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>Xylenes</td>
<td>1330-20-7</td>
<td>ACGIH TLV TWA</td>
<td>100 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA REL TWA</td>
<td>150 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL TWA</td>
<td>150 ppm (vacated 1989 PEL)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFG MAK</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFG MAK TWA</td>
<td>100 (skin)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DFG MAK PEAK</td>
<td>4× MAK 15 minute average value, 1-hr interval 4 per shift</td>
</tr>
</tbody>
</table>

Biological Exposure Indices (BEIs): Currently, the following BEI’s have been established for the Xylenes component.

<table>
<thead>
<tr>
<th>CHEMICAL:</th>
<th>DETERMINANT</th>
<th>SAMPLING TIME</th>
<th>BEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylenes</td>
<td>Methylhippuric Acid in Urine</td>
<td>End of Shift</td>
<td>1.5 g/g Creatinine</td>
</tr>
</tbody>
</table>


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 of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee’s feet may be exposed to electrical hazards, use foot protection, as described in 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. The following are NIOSH respiratory equipment guidelines are presented for additional assistance in respiratory protective equipment selection.

DICYCLOMETHANE-4,4'-DIISOCYANATE
CONCENTRATION | RESPIRATORY PROTECTION
Up to 0.1 ppm: | Supplied-Air Respirator (SAR) |
Up to 0.25 ppm: | SAR operated in a continuous-flow mode. |
Up to 0.5 ppm: | Full-facepiece Self-Contained Breathing Apparatus (SCBA); or full-facepiece SAR. |
Up to 1 ppm: | Positive pressure, full-facepiece SAR. |
Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: Positive pressure, full-facepiece SCBA; or positive pressure, full-facepiece SAR with an auxiliary positive pressure SCBA.

Escape: Gas mask with organic vapor canister; or escape-type SCBA.

XYLENES
CONCENTRATION | RESPIRATORY PROTECTION
Up to 900 ppm: | Any Chemical Cartridge Respirator with organic vapor cartridge(s), or any Powered, Air-Purifying Respirator (PAPR) with organic vapor cartridge(s), or any Supplied-Air Respirator (SAR), or any Self-Contained Breathing Apparatus (SCBA) with a full facepiece. |
Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: Any SCBA that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode, or any SAR that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary SCBA operated in pressure-demand or other positive-pressure mode.

Escape: Any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister, or any appropriate escape-type, SCBA.

9. PHYSICAL and CHEMICAL PROPERTIES
FORM: Somewhat viscous liquid.
MOLECULAR WEIGHT: Mixture.
ODOR: Sweet, aromatic.
VAPOR DENSITY: (air = 1) > 1
COLOR: Clear, colorless.
MOLECULAR FORMULA: Mixture.
ODOR THRESHOLD: For Xylenes: 20 ppm (detection); 40 ppm (recognition).
BOILING POINT: Not available.

Pecora P-225 Primer
Page 4 of 11
May 10, 2017
9. PHYSICAL and CHEMICAL PROPERTIES (Continued)

FREEZING/MELTING POINT: Not available.
SPECIFIC GRAVITY (water = 1): 0.94
SOLUBILITY IN WATER: Not available.
VAPOR PRESSURE: Not available.
FLASH POINT: 23.3°C (74°F)
COEFFICIENT WATER/OIL DISTRIBUTION: Not available.

HOW TO DETECT THIS SUBSTANCE (WARNING PROPERTIES): The odor of this product may act as a warning property in the event of an accidental release. The odor of Xylenes in this product may be a good warning property as its TLV is more than 10 times the odor threshold.

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: This product is not compatible with oxidizers, water, alcohols, acids, bases, amines, amides, phenols, mercaptans, urethanes, ureas and surface active materials, metal compounds (e.g. organotin catalysts) and 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione (dichlorehydrantoin). Due to the isocyanate material in this product, it may attack copper and copper alloys, such as brass and bronze, tin and zinc.


POSSIBILITY OF HAZARDOUS REACTIONS: This product may undergo uncontrolled exothermic polymerization upon contact with incompatible materials, especially strong bases, such as triethylamine and sodium hydroxide, trialkyl phosphines, potassium acetate, many metal compounds soluble in organic media, or if heated. The resulting pressure build-up could rupture closed containers.

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. Prolonged contact can cause corrosive effects with severe inflammation, redness, rash, swelling, blistering, tissue death and permanent scarring. Isocyanates, in general, can cause skin discoloration (staining) and hardening of the skin after repeated exposure. The Dicyclohexylmethylene-4,4'-Diisocyanate is a very strong sensitizing agent in humans; other components are also considered as skin sensitizers. Skin sensitization may occur after only one contact with the product. Brief contact with the liquid or vapors from this product and the eyes can cause irritation, reddening and watering. Permanent eye injury, including blindness, could result from direct contact with the liquid.

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 gastrointestinal system and may cause nausea, vomiting, and diarrhea as well as adverse effects on the central nervous system. Symptoms may include dizziness, vomiting and incoordination. Ingestion of large amounts may be harmful and cause systemic toxicity. Aspiration into the lungs after ingestion can pose a serious hazard of chemical and pulmonary edema. Ingestion of large amount may be fatal.

Inhalation: Inhalation of vapors, mists, or sprays of this product can moderately to can irritate the tissues of the nose, mouth, throat, and upper respiratory system. Symptoms of exposure may include coughing, sneezing, and difficulty breathing. Coughing with chest pain or tightness may also occur, frequently at night. These symptoms may occur during exposure or may be delayed several hours. Inhalation of high concentrations of this product (as may occur in a poorly ventilated area) may be fatal. Inhalation can also lead to adverse central nervous system effects, including dizziness, incoordination, nausea and vomiting. High aerosol concentrations could cause 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. Respiratory sensitization and lung damage may be permanent.

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.

TOXICITY DATA: There are currently no toxicity data available for this product; the following toxicology data are available for components greater than 1% in concentration. Due to the large amount of data, only human data, LD50 Oral-Rat or Mouse, LD50 Skin-Rat or Mouse, LC50 Inhalation-Rat or Mouse and skin irritation data are provided in this SDS. Contact Pecora for more information.

**PROPRIETARY BUTYLAMINE CROSS-LINKER:**
LD50 (Oral-Rat) 13,500 µL/kg: Gastrointestinal: changes in structure or function of salivary glands, hypermotility, diarrhea, other changes
LD50 (Skin-Rabbit) 16 mL/kg: Lungs, Thorax, or Respiration: other changes; Liver: other changes; Skin and Appendages: dermatitis, other (after systemic exposure)

**DICYCLOHEXYLMETHANE-4,4’-DIISOYCANATE:**
Standard Draize Test (Skin-Rabbit) 500 µL/24 hours: Moderate
Standard Draize Test (Eye-Rabbit) 100 µL: Mild
Standard Draize Test (Eye-Rabbit) 100 µL/24 hours: Severe
LD50 (Oral-Rat) 9900 mg/kg: Behavioral: food intake (animal); Gastrointestinal: hypermotility, diarrhea; Liver: other changes

**PROPRIETARY POLYETHER DIOL:**
LD50 (Oral-Rat) ~ 4000 mg/kg
LD50 (Skin-Rabbit) ~ 2000 mg/kg
LC50 (Inhalation-Rat) ~ 200 mg/L/1 hour

**XYLENE:**
Standard Draize Test (Eye-Human) 200 ppm

**XYLENE (continued):**
LDLo (Oral-Human) 50 mg/kg
LCLo (Oral-Human) 10,000 ppm/6 hours: Behavioral: general anesthetic; Lungs, Thorax, or Respiration: other changes
TCLo (Inhalation-Human) 200 ppm: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified; Sense Organs and Special Senses (Eye): conjunctive irritation; Lungs, Thorax, or Respiration: other changes
Standard Draize Test (Skin-Rabbit) 100%: Moderate
Standard Draize Test (Skin-Rabbit) 500 mg/24 hours: Moderate
Standard Draize Test (Eye-Rabbit) 5 mg/24 hours: Severe
Standard Open Irritation Test (Skin-Rat) 60 µL/8 hours: Mild
LC50 (Inhalation-Rat) 5000 ppm/4 hours
LD50 (Oral-Rat) 4300 mg/kg: Liver: other changes; Kidney/Ureter/Bladder: other changes
LD50 (Oral-Mouse) 2119 mg/kg
LD50 (Skin-Rabbit) > 1700 mg/kg

Page 5 of 11
11. TOXICOLOGICAL INFORMATION (Continued)

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>Proprietary Amine Cross-Linker</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>Proprietary Butylamine Cross-Linker</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>Dicyclohexylmethane-4,4'-Diisocyanate</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>Proprietary Polyether Diol</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>Proprietary Propoxylated Polymer</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>Xylene</td>
<td>3</td>
<td>1</td>
<td>No</td>
<td>No</td>
<td>A4</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

IARC-3: Unclassifiable as to Carcinogenicity in Humans. EPA-1 (Data are Inadequate for and Assessment of Human Carcinogenic Potential). ACGIH TLV-A4: Not Classifiable as a Human Carcinogen.

IRRITANTITY OF PRODUCT: This product is irritating by all routes of exposure. Depending on concentration and duration of exposure, eye exposure may be severe.

SENSITIZATION TO THE PRODUCT: This product may cause skin and respiratory sensitivity and allergic reaction in susceptible individuals. In general, diisocyanates are well known to cause respiratory sensitization and, therefore, Dicyclohexylmethane-4,4'-Diisocyanate is considered a respiratory sensitizer. Diisocyanate respiratory sensitization is usually caused by a very large exposure, or by multiple exposure. Although varying periods of exposure (1 day to years) may elapse before sensitization occurs, it develops more often during the first few months of exposure. Sensitized individuals react to very low levels of airborne diisocyanates that have no effect on non-sensitized people. At first, the symptoms may appear to be a cold or mild hay fever. However, severe asthmatic symptoms can develop and include wheezing, tightness of the chest, shortness of breath, difficulty breathing and/or coughing. Fever, chills, general feelings of discomfort, headache, and fatigue can also occur. Symptoms may occur immediately upon exposure (within an hour), several hours after exposure or both, and/or at night. Typically, the asthma improves with removal from exposure (e.g. weekends or vacations) and returns, in some cases, in the form of an "acute attack", on renewed exposure. Sensitized people who continue to be exposed to diisocyanates may develop symptoms sooner after each exposure. The number and severity of symptoms may increase. Cross-sensitization between different diisocyanates may occur. Exposure to diisocyanates is likely to aggravate individuals with existing respiratory disease, such as chronic bronchitis and emphysema. Respiratory sensitization may be permanent.

Skin sensitization may occur after only a few days working with products containing Dicyclohexylmethane-4,4’-Diisocyanate. Onset of symptoms is usually delayed. Symptoms include a rash on the hands, arms, neck, face, chest or abdomen, even when contact occurs with a small amount of product. Other effects such as coughing, a burning sensation in the throat or redness and swelling of the eyes might also occur.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: There have been several studies in humans and animals on the interaction of Xylenes with drugs, alcohol and other solvents. Xylene has a high potential to interact with other compounds because it increases metabolic enzymes in the liver and decreases metabolic enzymes in the lungs. In general, exposure to related solvents, such as benzene, toluene and ethanol (alcohol) slows the rate of clearance of Xylenes from the body, thus enhancing its toxic effects.

REPRODUCTIVE TOXICITY INFORMATION: This product has not been tested for reproductive toxicity. The following information is available for some components.

Mutagenicity: Either no information is available for components, or negative results from testing have been obtained.

Embryotoxicity/Teratogenicity: Xylene (mixed isomers) are considered fetotoxic in humans, based on observations of reduced fetal weight, delayed ossification and persistent behavioral effects in animal studies in the absence of maternal toxicity. Other developmental effects have been observed in animal studies in the presence of maternal toxicity. Several human population studies have suggested a link between exposure to organic solvents (including xylene) and increased occurrence of miscarriages or birth defects in children. However, in the majority of cases, there was exposure to a variety of solvents at the same time, exposure were ill-defined, and the number of cases examined was small.

Reproductive Toxicity: No information is available.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil. The following information is available for components.

XYLENE: Several experimental Koc values for this compound have been reported depending upon the pH and organic carbon content of the soil. Batch experiments conducted with five low organic carbon content (0.04-1.12%) field contaminated soils (3 sily clay and two sandy loams) yielded Koc values ranging from 39-365. This compound in Norwegian forest soil at pH 5.6 and organic carbon content of 0.2 percent has a reported experimental Koc of 129; in Norwegian agricultural soil at pH 7.4 and organic carbon content of 2.2 percent has a reported experimental Koc of 158; in Norwegian forest soil at pH 4.2 and organic carbon content of 3.7 percent has a reported experimental Koc of 289. Based on a recommended classification scheme and the experimentally determined Koc values, this material is expected to have moderate to high mobility in soils. Xylene isomers have been observed to pass through soil at a dune-infiltration rate on the Rhine River and to leach into groundwater under a rapid infiltration site.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability. The following information is available for components.

XYLENE: Based upon an experimental vapor pressure of 7.99 mm Hg at 25°C, this compound is expected to exist entirely in the vapor phase in the ambient atmosphere. Vapor-phase material is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals with an estimated atmospheric lifetime of about 1-2 days. This compound is expected to have moderate to high mobility in soils based upon experimental Koc values obtained with a variety of soils at differing pH values and organic carbon content. Volatilization from moist soil surfaces is expected based on an experimental Henry's Law constant of 7.0X10^-3 atm-cm/mole. Biodegradation is an important environmental fate process for this compound. In general, it has been found that this material is biodegraded in soil and groundwater samples under aerobic conditions and may be degraded under anaerobic denitrifying conditions. In water, this compound is expected to adsorb somewhat to sediment or particulate matter based on its measured Koc values. This compound is expected to volatilize from water surfaces given its experimental Henry's Law constant. Estimated half-lives for a model river and model lake are 3 and 99 hours, respectively. Log Kow = 3.5-68.
12. ECOLOGICAL INFORMATION (Continued)

**BIO-ACCUMULATION POTENTIAL:** This product has not been tested for bio-accumulation potential. The following values are available for components.

- **XYLENE:** An experimental BCF value of 20 was measured for all isomers in eels exposed to petroleum for 10 days. According to a classification scheme, this BCF value suggests that biocaccumulation in aquatic organisms is low.

**ECOTOXICITY:** This product has not been tested for aquatic or animal toxicity. All release to terrestrial, atmospheric and aquatic environments should be avoided. The following aquatic toxicity data are available for some components. Only select data are given due to the large amount of data available. Contact Pecora for more information.

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 (fathead minnow)</th>
<th>LC50 (goldfish)</th>
<th>LC50 (rainbow trout)</th>
<th>LC50 (goldfish)</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYLENE</td>
<td>96 hours = 46 mg/L at 18-22°C, in a static bioassay (No specific isomer)</td>
<td>96 hours = 46 mg/L at 18-22°C, in a static bioassay (No specific isomer)</td>
<td>96 hours = 16.9 ppm (conditions of bioassay not specified, no specific isomer)</td>
<td>96 hours = 16.9 ppm (conditions of bioassay not specified, no specific isomer)</td>
</tr>
</tbody>
</table>

**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 be a hazardous waste as defined by U.S. federal regulation (40 CFR 261) if discarded or disposed. It has the characteristic of Ignitibility. 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 test to see if they meet the criteria of D001 (Ignitibility 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.

<table>
<thead>
<tr>
<th>UN Identification Number:</th>
<th>Proper Shipping Name:</th>
<th>Hazard Class Number and Description:</th>
<th>Packing Group:</th>
<th>DOT Label(s) Required:</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 1866</td>
<td>Resin solution, flammable</td>
<td>3 (Flammable)</td>
<td>PG II</td>
<td>Class 3 (Flammable)</td>
</tr>
</tbody>
</table>

**North American Emergency Response Guidebook Number (2016):** 127

**TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS:** This product is classified as Dangerous Goods, per regulations of Transport Canada.

<table>
<thead>
<tr>
<th>UN Identification Number:</th>
<th>Proper Shipping Name:</th>
<th>Hazard Class Number and Description:</th>
<th>Packing Group:</th>
<th>Hazard Shipping Label(s) Required:</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 1866</td>
<td>Resin solution, flammable</td>
<td>3 (Flammable)</td>
<td>PG II</td>
<td>Class 3 (Flammable)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special Provisions:</th>
<th>Excepted Quantities:</th>
<th>Explosive Limit &amp; Limited Quantity Index:</th>
<th>ERAP Index:</th>
<th>Passenger Carrying Ship Index:</th>
<th>Passenger Carrying Road Or Rail Vehicle Index:</th>
</tr>
</thead>
<tbody>
<tr>
<td>83</td>
<td>E2</td>
<td>5 L</td>
<td>None</td>
<td>None</td>
<td>5 L</td>
</tr>
</tbody>
</table>

**INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA):** This product is classified as dangerous goods, per the International Air Transport Association.

<table>
<thead>
<tr>
<th>UN Identification Number:</th>
<th>Proper Shipping Name:</th>
<th>Hazard Class or Division:</th>
<th>Hazard Label(s) Required:</th>
<th>Packing Group:</th>
<th>Excepted Quantities:</th>
<th>Passenger and Cargo Aircraft Packing Instruction:</th>
<th>Passenger and Cargo Aircraft Maximum Net Quantity per Pkg.:</th>
<th>Passenger and Cargo Aircraft Limited Quantity Packing Instruction:</th>
<th>Passenger and Cargo Aircraft Limited Quantity Maximum Net Quantity per Pkg.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 1866</td>
<td>Resin solution, flammable</td>
<td>3 (Flammable)</td>
<td>Class 3 (Flammable)</td>
<td>II</td>
<td>E2</td>
<td>353</td>
<td>5 L</td>
<td>Y341</td>
<td>1 L</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cargo Aircraft Only Packing Instruction:</th>
<th>Cargo Aircraft Only Maximum Net Quantity per Pkg.:</th>
<th>Special Provisions:</th>
<th>ERG Code:</th>
</tr>
</thead>
<tbody>
<tr>
<td>364</td>
<td>60 L</td>
<td>A3</td>
<td>3L</td>
</tr>
</tbody>
</table>
14. TRANSPORTATION INFORMATION (Continued)

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is classified as dangerous goods, per the International Maritime Organization.

UN No.: 1866
Proper Shipping Name: Resin solution, flammable
Hazard Class Number: 3 (Flammable)
Labels: Class 3 (Flammable)
Packing Group: II
Special Provisions: None
Limited Quantities: 5 L
Excepted Quantities: E2
Packing: Instructions: P001; Provisions: PP1
IBCs: Instructions: IBC02; Provisions: None
Tanks: Instructions: T4; Provisions: T1, TP8
EmS: F-E, S-E
Stowage Category: Category B.
Segregation: Marine Pollutant: No component of this product is designated by the IMO to be a Marine Pollutant.

15. REGULATORY INFORMATION

U.S. REGULATIONS:
U.S. SARA Reporting Requirements: The following components of this product are subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

<table>
<thead>
<tr>
<th>CHEMICAL</th>
<th>SECTION 302 EHS (TPQ)</th>
<th>SECTION 304 RQ</th>
<th>SECTION 313 TRI (threshold)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(40 CFR 355, Appendix A)</td>
<td>(40 CFR Table 302.4)</td>
<td>(40 CFR 372.65)</td>
</tr>
<tr>
<td>Dicyclohexylmethane-4,4'-Diisocyanate</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Xylene</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; 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): Xylene = 100 lb (45.4 kg)

U.S. Clean Air Act (CA 112r) Threshold Quantity (TQ): The Xylene component is listed as a Hazardous Air Pollutant (HAP) generally known or suspected to cause serious health problems. The Clean Air Act, as amended in 1990, directs EPA to set standards requiring major sources to sharply reduce routine emissions of toxic pollutants. EPA is required to establish and phase in specific performance based standards for all air emission sources that emit one or more of the listed pollutants. Xylene is included on this list.

U.S. Clean Water Act Requirements: Xylene (mixed) is designated as a hazardous substance under section 311(b)(2)(A) of the Federal Water Pollution Control Act and further regulated by the Clean Water Act Amendments of 1977 and 1978. These regulations apply to discharges of this substance. This designation includes any isomers and hydrates, as well as any solutions and mixtures containing this substance. California Safe Drinking Water And Toxic Enforcement Act (Proposition 65): No component is on the California Proposition 65 lists.

CANADIAN REGULATIONS:
Canadian DSL/INDSL inventory status: The components of this product are on the DSL Inventory.

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: The Xylene component is on the CEPA Priority Substances 1 list, not considered as "TOXIC" under Section 64 of CEPA.

Canadian WHMIS (HPR-GHS) 2015 Classification and Symbols: See Section 16 in Classification and Symbols under HPR-GHS 2015.

MEXICAN REGULATIONS:
Mexican Workplace Regulations (NOM-018-STPS-2000): This product is not classified as hazardous.

16. OTHER INFORMATION

U.S. ANSI STANDARD LABELING (Precautionary Statements): DANGER! FLAMMABLE LIQUID. MAY BE TOXIC IF INHALED. MAY CAUSE EYE, SKIN AND RESPIRATORY IRRITATION; EYE IRRITATION MAY BE SEVERE. VAPORS MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. CHRONIC INHALATION EXPOSURE MAY CAUSE DAMAGE TO LUNGS. CONTAINS COMPOUND THAT IS A SUSPECT CARCINOGEN AND REPRODUCTIVE TOXIN. MAY CAUSE SKIN AND RESPIRATORY SENSITIZATION. 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. IN CASE OF SPILL: Absorb spilled product with poly pads or other suitable absorbing material. Place all spill residue in an appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada.
16. OTHER INFORMATION (Continued)


Classification: Flammable Liquid Category 3, Acute Inhalation Toxicity Category 3, Acute Dermal Toxicity Category 4, Acute Oral Toxicity Category 5, Eye Irritation Category 2A, Skin Irritation Category 2, Specific Target Organ Toxicity (Inhalation-Respiratory) Irritation Category 3, Respiratory Sensitization Category 1, Skin Sensitization Category 1

Signal Word: Danger


Precautionary Statements:


Response (continued): P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P333 + P313: IF skin irritation or rash occurs: Get medical advice/attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. P321: Specific treatment (remove from exposure and treat symptoms).

Disposal: P501: Dispose of contents/containers in accordance with all local, regional, national and international regulations.

Hazard Symbols/Pictograms: GHS02, GHS07, GHS08

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES: The information presented in this Safety Data Sheet is presented in good faith based on data believed to be accurate as of the date this Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR 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 or 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: September 2012: Up-date and revise entire SDS to include current GHS requirements; change in formulation. May 2017: Update of SDS to current format and regulations. Adjustment of formula.

DATE OF PRINTING: May 11, 2017

DEFINITIONS OF TERMS

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

KEY ACRONYMS:

CEMETREC: 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 MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens that have been shown to increase the number of spermatogonia in the germ cell of nonmammals. 2: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed mammals. 3A: Substances that have been shown to induce genetic damage in germ cells of humans or animals, which produce mutagenic effects in somatic cells of mammals and have been shown to reach the germ cells in an active form. 3B: Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell in vivo, in exceptional cases, substances for which there are no in vivo data, but that are clearly mutagenic in vitro and structurally related to known in vivo mutagens. 4: Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for substances with primary target of female germ cells, such as those with purely aneugenic substances) if research results make this seem sensible. 5: Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Pregnancy Risk Group Classification: Group A: At a risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. Group B: Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when the MAK and BAT values are observed. Group C: There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed.

DFG MAK Pregnancy Risk Group Classification (continued): Group D: Classification in one of the groups A-C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation. Group E: Not established. When no exposure guidelines are established, an entry of NE is made for reference. Group F: Notice of Intended Change.

KEY ACRONYMS (continued):

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH’s Recommended Exposure Limits. OSHA’s Permissible Exposure Limits. This exposure value means exactly the same as a TEL, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35341). Both the current PELs and the vacated PELs are indicated. The phrase, “Vacated 1989 PEL” is placed next to the PEL that was vacated by Court Order.

SKIN: Used when there is a danger of cutaneous absorption.

STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is in the TLV-TWA or PEL-TWA or REL-TWA.

TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour workday and a 40-hour workweek.

WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: 0 Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. Skin Irritation: Essentially non-irritating. Mechanical irritation may occur. PEL or Draize = 0. Eye Irritation: Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. Draze = 0. Oral Toxicity LD50 Rat, Cat: > 5000 mg/kg. Dermal Toxicity LD50 Rat or Rabbit: > 2000 mg/kg. Inhalation Toxicity 4-hrs LC50: > 20 mg/L. 1 Slight Hazard: Minor reversible injury may occur; may irritate the stomach if swallowed; may defat the skin and cause other skin irritation effects. Skin Irritation: Slightly irritant or mildly irritating. PEL or Draize > 0 ≤ 5. Eye Irritation: Slightly mildly irritating, but reversible within 7 days. Draze > 0 ≤ 25. Oral Toxicity LD50 Rat, Cat: > 500-5000 mg/kg. Dermal Toxicity LD50 Rat or Rabbit: > 1000-2000 mg/kg. Inhalation Toxicity LC50 4-hrs Rat: > 20 mg/L. 2 Moderat Hazard: Temporary or transitory injury may occur; prolonged exposure may affect the CNS. Skin Irritation: Moderately irritating; primary irritant; sensitizer. PEL or Draize > 5 ≤ 20. With no destruction of dermal tissue. Eye Irritation: Moderately to severely irritating; reversible corneal opacity; corneal involvement or irritation clearing in 8–21 days. Draize = 26–100, with reversible effects. Oral Toxicity LD50 Rat or Rabbit: > 50-500 mg/kg. Dermal Toxicity LD50 Rat or Rabbit: > 200-1000 mg/kg. Inhalation Toxicity LC50 4-hrs Rat: > 0.5–2 mg/L.

Pecora P-225 Primer Page 9 of 11 May 10, 2017
DEFINITIONS OF TERMS (Continued)

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

HEALTH HAZARD: 3 Serious: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. Skin Irritation: Severely irritating and/or corrosive may cause destruction of dermal skin, burn, and dermal necrosis. PI or Drage > 50, if irritant. Corrosive: Life threatening; major or permanent damage may result from single or repeated exposure; extremely toxic; irreversible injury may result from brief contact. Skin Irritation: Not appropriate. Do not rate as a 4, based on any level of PI or Drage. Eye Irritation: Do not rate as a 4, based on any level of PI or Drage unless ocular irritation alone. Oral Toxicity LD₅₀: ≤ 1 mg/kg. Dermal Toxicity LD₅₀ or Rabbits: ≤ 20 mg/kg. Inhalation Toxicity LC₅₀: 4 hrs ≥ 0.05 mg/L.

FLAMMABILITY HAZARD: 2 Minimal: A material that will not burn in air when exposed to the usual components of fire (heat, oxygen, and sometimes fuel). A material may be self-heating, oxidizing, or pyrophoric but will not be classified as a Flammability Haz

PHYSICAL HAZARD: 1 Reactive: Materials that do not react with water. Organic Peroxides: Materials that are normally stable, even under fire conditions and will not react with water.

Explosives: Substances that are Non-Explosive. Compressed Gases: No Rating. Pyrophorics: No Rating. Oxidizers: No Rating. Explosives: Substances that can be classified as a 1, 1.1, or 1.2 explosive but require a test to confirm their classification. Semisolid oxidizers that do not require a test to be classified as 1, 1.1, or 1.2 may be classified as None

1 Water Reactivity: Materials that change or decompose upon exposure to moisture. Organic Peroxides: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. Explosives: Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. Compressed Gases: Pressure below OSHA definition. Pyrophorics: No Rating. Oxidizers: Packaging Group II oxidizers. Solids: any material that in either concentrated or dispersed form is capable of giving off flammable or combustible solvents in a solvent concentration tested, exhibiting a flash point below 21.1°C (70°F) and/or a solvent concentration of 5.147 % (by volume) in water at 21.1°C (70°F). Pyrophorics: No Rating. Oxidizers: Packaging Group II oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of 1 second (s) required for a 2.3 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquid organic peroxyd compounds that do not release more than 30% of the absorbed oxygen within 1 minute (min) and that is below 21.1°C (70°F) and has a flash point below 21.1°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (phosphorus).

1 Water Reactivity: Materials that can be classified as 1, 1.1, or 1.2 explosive but require a test to confirm their classification. Semisolid oxidizers that do not require a test to be classified as 1, 1.1, or 1.2 may be classified as None

1 Water Reactivity: Materials that change or decompose upon exposure to moisture. Organic Peroxides: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. Explosives: Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. Compressed Gases: Pressure below OSHA definition. Pyrophorics: No Rating. Oxidizers: Packaging Group II oxidizers. Solids: any material that in either concentrated or dispersed form is capable of giving off flammable or combustible solvents in a solvent concentration tested, exhibiting a flash point below 21.1°C (70°F) and/or a solvent concentration of 5.147 % (by volume) in water at 21.1°C (70°F). Pyrophorics: No Rating. Oxidizers: Packaging Group II oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of 1 second (s) required for a 2.3 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquid organic peroxyd compounds that do not release more than 30% of the absorbed oxygen within 1 minute (min) and that is below 21.1°C (70°F) and has a flash point below 21.1°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (phosphorus).
DEFINITIONS OF TERMS (Continued)

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):
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, but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL, and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. 4 Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 1000 W/mL or greater.

FLAMMABILITY LIMITS IN AIR:
Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA). Flash Point: Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. Autoignition Temperature: Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition. LEL: Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. UEL: Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:
Human and Animal Toxicology: Possible health hazards from chemical exposure to 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 (gases) that kills 50% of the exposed animals. ppm: Concentration expressed in parts of material per million parts of air or water. mg/L: Concentration expressed in weight of material per volume of air. mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg. mL/kg: Lowest dose to cause a symptom. TCL₉₀: Lowest concentration to cause a symptom. TLD₅₀: Lowest dose (or concentration) to cause lethal or toxic effects. Cancer Information: IARC: International Agency for Research on Cancer. NTP: National Toxicology Program. RTECS: Registry of Toxic Effects of Chemical Substances. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. Other Information: BRI: ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

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 embryotoxin is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines.

ECOLOGICAL INFORMATION:
EC: Effect concentration in water. BCF: Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. TLD₅₀: Median threshold limit. log Koc or log Koc: Coefficient of Oil/Water Distribution is used to assess a substance’s behavior in the environment.

REGULATORY INFORMATION: This section explains the impact of various laws and regulations on the material.

U.S.:
EPA: U.S. Environmental Protection Agency. ACGIH: American Conference of Governmental Industrial Hygienists. OSHA: U.S. Occupational Safety and Health Administration. NIOSH: National Institute of Occupational Safety and Health, which is the research arm of OSHA. DOT: U.S. Department of Transportation. TC: Transport Canada. SARA: Superfund Amendments and Reauthorization Act. TSCA: U.S. Toxic Substance Control Act. CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionsary warnings that appear on the material’s package label.

CANADA: