SAFETY DATA SHEET

Pecora-Deck™ P-808 PART A

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>Pecora-Deck™ P-808 Primer Part A</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRODUCT DESCRIPTION:</td>
<td>Primer</td>
</tr>
<tr>
<td>CHEMICAL NAME/CLASS:</td>
<td>Solvent Bisphenol Mixture</td>
</tr>
<tr>
<td>SYNONYMS:</td>
<td>P-808 Primer</td>
</tr>
<tr>
<td>RELEVANT USE:</td>
<td>Part A for Two-Part Epoxy Primer</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, Horleysville, 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>
</tbody>
</table>

PREPARATION DATE: January 2004

REVISION DATE: October 27, 2014

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: Flammable Liquid Cat. 2, Acute Inhalation Toxicity Cat. 5, Acute Dermal Toxicity Cat. 5, Acute Oral Toxicity Cat. 5, Reproductive Toxicity Cat. 2, STOT RE Cat. 2, Skin Irritation Cat. 3, Eye Irritation Cat. 2A, STOT (Inhalation-Central Nervous System, Respiratory Irritation) SE Cat. 3, Skin Sensitization Cat. 1B


Hazard Symbols/Pictograms: GHS02, GHS07, GHS08

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: This product is a colorless, highly flammable, viscous 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. Fatal if swallowed. May cause toxic systemic effects by skin absorption. Exposure may cause adverse central nervous system effects. Can cause skin sensitization and allergic reaction in susceptible individuals. Contains compounds that are suspect teratogens and carcinogens.

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. 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>Health</th>
<th>2*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>3</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: Class D2B and Class B2. See Section 15 (Regulatory Information) for all classification details.

U.S. OSHA REGULATORY STATUS: This material is classified as hazardous under OSHA regulations.
### 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 remove 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 (TCC):** -5°C (23°F)

**AUTOIGNITION:** Not known for product. For Methyl Acetate: 454°C (850°F);

**FLAMMABLE LIMITS IN AIR:** Not known for product.

- For Methyl Acetate: LEL: 3.1% UEL: 16.0%

**EXTINGUISHING MEDIA:**

- **SUITEABLE 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 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. Can undergo hazardous polymerization when exposed to aliphatic amines, with considerable release of heat; closed containers may rupture violently when heated. Closed containers may develop pressure and rupture in event of fire or if contaminated with water.

**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. 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.

Small Spills: For releases of 1 drum or less, Level D Protective Equipment (gloves, chemical resistant apron, boots, and eye protection) should be worn.

Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit, fire-retardant clothing and boots, hard hat, and Self-Contained Breathing Apparatus.

METHODS FOR CLEAN-UP AND CONTAINMENT:

All Spills: Access to the spill area should be restricted. Spread should be limited by gently covering the spill with poly pads. 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 sealed. 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 rinsate 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.

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. 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 react 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.

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>Methyl Acetate</td>
<td>79-20-9</td>
<td>MAK MAK TWA</td>
<td>0.05 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAK MAK STEL</td>
<td>0.15 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAK MAK PEL</td>
<td>0.25 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAK MAK REL</td>
<td>2 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAK MAK TWA</td>
<td>0.2 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAK MAK STEL</td>
<td>0.5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAK MAK PEL</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Polyurethane</td>
<td>2030-5</td>
<td>MAK MAK TWA</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>MAK MAK STEL</td>
<td>0.15 ppm</td>
</tr>
<tr>
<td></td>
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<td>MAK MAK PEL</td>
<td>0.25 ppm</td>
</tr>
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<td></td>
<td></td>
<td>MAK MAK STEL</td>
<td>0.5 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MAK MAK PEL</td>
<td>1 ppm</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 piece, 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.

METHYL ACETATE

CONCENTRATION RESPIRATORY PROTECTION
Up to 2000 ppm: Any Air-Purifying Half-Mask Respirator equipped with organic vapor cartridge(s), or any Air-Purifying Full-Facepiece Respirator equipped with organic vapor cartridge(s), or any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister, or any Powered Air-Purifying Respirator (PAPR) with organic vapor cartridge(s), or any Self-Contained Breathing Apparatus (SCBA) with a full facepiece, or any SAR with a full facepiece. (continued on next page)

Emergency or Planned Entry into Unknown Concentrations or IDLH Conditions: 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.

METHYL ETHYL KETONE

CONCENTRATION RESPIRATORY PROTECTION
Up to 3000 ppm: Any SAR operated in a continuous-flow mode, any PAPR with organic vapor cartridge(s), any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s), any air-purifying, full-facepiece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister, any SCBA with a full facepiece, or any SAR with a full facepiece. (continued on next page)

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.
8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

PERSONAL PROTECTIVE EQUIPMENT (PPE) [continued]:

RESPIRATORY PROTECTION (continued):

TOLUENE

CONCENTRATION: Up to 500 ppm.

RESPIRATORY PROTECTION: Any Chemical Cartridge Respirator with organic vapor cartridge(s), or any Powered, Air-Purifying Respirator (PAPR) with organic vapor cartridge(s), or any Air-Purifying, Full-Facepiece Respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister, 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.

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9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Viscous liquid. COLOR: Colorless.

MOLECULAR WEIGHT: Mixture. MOLECULAR FORMULA: Mixture.

ODOR: Sweet, aromatic. VISCOSITY: Not available.

ODOR THRESHOLD: For Methyl Acetate: 180 ppm (detection); 300 ppm (recognition)

VAPOR DENSITY: (air = 1) > 1. BOILING POINT: 76.6°C (170°F)

FREEZING/MELTING POINT: Not available. EXPANSION RATIO: Not applicable.

SPECIFIC GRAVITY (water = 1): 1.088 lb/gal pH: Not available.

SOLUBILITY IN WATER: Negligible. EVAPORATION RATE (nBuAc = 1): > 1

VAPOR PRESSURE @ 20°C: 70 mmHg VOC CONTENT: 337 g/L

COEFFICIENT WATER/OIL DISTRIBUTION: Not available

HOW TO DETECT THIS SUBSTANCE (WARNING PROPERTIES): The odor of this product is not a good warning property in the event of an accidental release, as the odor threshold of Methyl Isobutyl Ketone is near its TLV.

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10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under normal circumstances of use and handling. Prolonged (12 months) exposure to air and heat, and/or prolonged storage may produce explosive peroxides, due to Methyl Ethyl Ketone component.

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 oxidizers, amines, reducing agents, strong bases, potassium t-butoxide, strong mineral acids, Lewis acids, potassium carbonate, nitrogen tetroxide, tetratinethemel, silver perchlorate, sulfur dichloride, uranium hexafluoride, and 1,3-dichloro-5,5-dimethyl-2,4-imidazolidindione (dichlorohydantoin). This product may attack some plastics.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion: Thermal decomposition of this product can generate carbon, nitrogen, carbon monoxide, carbon dioxide, reactive hydrocarbons, low molecular weight aldehydes, and explosive peroxides such as methyl isobutyl peroxide. Hydrolysis: None known.

POSSIBILITY OF HAZARDOUS REACTIONS: This product may undergo uncontrolled exothermic polymerization upon contact with amines or if heated. The resulting pressure build-up could rupture closed containers.

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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 exposures can cause reddening, discomfort or irritation. Prolonged contact may cause inflammation, redness, rash, swelling and blistering. Repeated skin contact may cause defatting and dermatitis. Skin contact may result in sensitization and allergic reaction. Brief contact with the liquid or vapors from this product and the eyes can cause irritation, reddening and watering. Eye contact will cause moderate to 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 overexposure 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.

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.
11. TOXICOLOGICAL INFORMATION (Continued)

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.

METHYL ACETATE:
TCLo (Inhalation-Human) 15,000 mg/m³; Sense Organs and Special Senses (Eye): lacrimation; Lungs, Thorax, or Respiration: cough, other changes
Standard Draize Test (Skin-Rabbit) 500 mg/24 hours: Mild
Standard Draize Test (Skin-Rabbit) 20 mg/24 hours: Moderate
Standard Draize Test (Eye-Rabbit) 100 mg/24 hours: Moderate
LD₅₀ (Rat) > 5 gm/kg
LD₅₀ (Skin-Rabbit) × 5 gm/kg

METHYL ETHYL KETONE:
Standard Draize Test (Eye-Human) 200 ppm/15 minutes
TCLo (Inhalation-Man) 2290 mg/m³: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified
TCLo (Inhalation-Human) 4100 mg/m³: Brain and Coverings: other degenerative changes; Behavioral: general anesthetic
TCLo (Inhalation-Human) 800 mg/m³: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified; Lungs, Thorax, or Respiration: cough
TCLo (Inhalation-Human) 12 mg/m³: Sense Organs and Special Senses (Olfaction): effect, not otherwise specified Sense Organs and Special Senses (Eye): conjunctive irritation; Lungs, Thorax, or Respiration: cough
Standard Draize Test (Skin-Rabbit) 500 mg/24 hours: Mild
Standard Draize Test (Skin-Rabbit) 40 mg: Severe
Standard Draize Test (Eye-Rabbit) 100 μL/24 hours: Moderate

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>Methyl Acetate</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>Methyl Ethyl Ketone</td>
<td>No</td>
<td>I</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Polymer of Epoxy Resin &amp; Bisphenol A</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>Toluene</td>
<td>3</td>
<td>II</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-I: Data are Inadequate for and Assessment of Human Carcinogenic Potential. EPA-II: Inadequate Information to Assess Carcinogenic Potential. ACGIH TLV-A4: Not Classifiable as a Human Carcinogen.

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

SENSITIZATION TO THE PRODUCT: This product may cause skin sensitivity and allergic reaction in susceptible individuals.

Symptoms can include itching, redness, swelling, welts and rash.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: In animal studies, Methyl Isobutyl Ketone has been shown to potentiate the hepatotoxicity of haloalkanes, such as chloroform, carbon tetrachloride and 1,2-dichlorobenzene. Combined exposure to methyl ethyl ketone and Methyl Isobutyl Ketone caused increased behavioral responses in baboons. Combined exposure to toluene and noise, Toluene and n-hexane, Toluene and aspirin or toluene, ethyl benzene and noise has caused a synergistic loss of hearing in animal studies. Increased hearing loss has also been observed in workers in some studies following long-term exposure to Toluene and noise.

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

Mutagenicity: Both positive and negative results have been obtained in studies for various mutagenic effects in peripheral blood lymphocytes of workers exposed to Toluene; mutagenicity cannot be determined. Negative results were obtained in studies involving the Methyl Ethyl Ketone component.

Embryotoxicity/Teratogenicity: In general, animal studies involving the Methyl Ethyl Ketone component have shown slight fetotoxicity (e.g. skeletal anomalies, reduced fetal weight) at concentrations that produced mild maternal toxicity. Toluene is a developmental toxicity hazard, based on information obtained from animal studies. Fetotoxicity (reduced fetal weight), behavioral effects (effects on learning and memory) and hearing loss (in males) have been observed in the offspring of rats exposed by inhalation to 1200 or 1800 ppm toluene. These effects were observed in the absence of maternal toxicity.

Reproductive Toxicity: No data available.

BIOLOGICAL EXPOSURES INDICES (BEIs): Currently, the following BEI’s have been established for some components.

<table>
<thead>
<tr>
<th>CHEMICAL: DETERMINANT</th>
<th>SAMPLING TIME</th>
<th>BEI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Ethyl Ketone</td>
<td>• 2,5-Hexanedione in Urine</td>
<td>• End of shift at end of workweek</td>
</tr>
<tr>
<td>Toluene</td>
<td>• Toluene in Blood</td>
<td>• Prior to Last Shift of Workweek</td>
</tr>
<tr>
<td></td>
<td>• Toluene in Urine</td>
<td>• End of shift</td>
</tr>
<tr>
<td></td>
<td>• o-Cresol in urine</td>
<td>• End of shift</td>
</tr>
</tbody>
</table>
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 the main solvent components.

METHYL ACETATE: The Koc is estimated as approximately 30, using a log Kow value of 0.18 and a regression-derived equation. According to a classification scheme, this estimated Koc value suggests that this compound is expected to have very high mobility in soil.

METHYL ETHYL KETONE: Measured Koc values of 29 and 34 were obtained for this compound in silt loams. Based on a recommended classification scheme, this material is expected to have very high mobility in soil.

TOLUENE: In association with clay minerals, Toluene's adsorption is inversely proportional to the pH of the soil. The reported Kocs are 178 measured in soil indicates that Toluene is expected to have high to moderate mobility in soil.

Also, based on a classification scheme, Koc values of 37-178 measured in soil indicates that Toluene is expected to have high to moderate mobility in soil.

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

METHYL ACETATE: If released to air, a vapor pressure of 216 mm Hg at 25°C indicates this compound will exist solely as a vapor in the ambient atmosphere. Vapor-phase material will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 47 to 94 days. If released to soil, this compound is expected to have very high mobility based upon an estimated Koc of 30. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 1.1X10⁻¹ atm-cu m/mole. Volatilization from dry soil surfaces is expected based upon the vapor pressure of this compound. Volatilization from moist soil surfaces is also expected based upon the measured Henry's Law constant of 4.7X10⁻¹ atm-cu m/mole. The volatilization half-life of this compound from soil and sandy loams was measured as 4.9 days. This compound is expected to biodegrade under aerobic and anaerobic conditions. In water, this material is not expected to adsorb to suspended solids and sediment based upon its measured Koc values. Volatilization from water surfaces is expected to be an important environmental fate process given its Henry's Law constant. Estimated half-lives for a model river and model lake are 19 and 197 hours, respectively.

TOLUENE: Volatilization of Toluene from moist soil surfaces is expected to be an important fate process given a Henry's Law constant of 6.64X10⁻³ atm-cu m/mole. This compound may volatilize from dry soil surfaces based upon a vapor pressure of 28.4 mm Hg at 25°C. Complete biodegradation of Toluene was observed in lab microcosm tests during a 40 hour incubation period using soils previously exposed to this material. The biodegradation rate in various soils was reported as several hours to 71 days. Volatilization from water surfaces is expected based upon a Henry's Law constant of 6.64X10⁻¹ atm-cu m/mole. Using this Henry's Law constant and an estimation method, volatilization half-lives for a model river and model lake are 1 hour and 4 days, respectively. The half-life of Toluene this material in aerobic and anaerobic water was reported as 4 and 56 days, respectively. According to a model of gas/particle partitioning of semi-volatile organic compounds in the atmosphere, Toluene, which has a vapor pressure of 28.4 mm Hg at 25°C, is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase material is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals, nitrate radicals and ozone molecules. The half-life for the reaction with hydroxyl radicals is estimated to be 3 days, calculated from its rate constant of 5.96X10⁻¹ cu m/mol.  The half-life for the reaction with ozone is estimated as 27,950 days calculated from its rate constant of 4.1X10⁻¹ sec at 25°C.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential. The BCF for Methyl Acetate is 0.8. The BCFs of the Toluene component in eels is 13 and in golden ide 90. The calculated value for Methyl Ethyl Ketone is 1. These values indicate low bioconcentration potential.

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.

METHYL ACETATE:

LC₅₀ (Pimephales promelas fathead minnows) 96 hours = 320 mg/L (confidence limit 295-348 mg/L) in soil.

EC₅₀ (Pimephales promelas fathead minnows) 96 hours = 320 mg/L (confidence limit 295-348 mg/L) Hemorrhaging occurred along the flesh line above swim bladder in stressed & dead fish.

AEC₅₀ (Pimephales promelas fathead minnows) 96 hours = 3200 mg/L/From table; pH 7.5, temp 25°C; hardness 42.2 mg/L/calcium carbonate

LC₅₀ (Lepomis macrochirus bluegill) 24 to 96 hours = 5.640-1.690 mg/L/Conditions of bioassay not specified

LC₅₀ (Artemia salina brine shrimp) 24 hours = 1,950 mg/L/From table; bottles not sealed and may have lost MEK during experiment; water pH, temp, and hardness not specified

LC₅₀ (Daphnia magna water flea) 48 hours = < 520 mg/L/From table; pH 8 and hardness 173; temp not specified

LC₅₀ (Daphnia magna water flea) 24 hours = 8890 mg/L/From table; pH 7.6-7.7, temp 20-22°C, hardness 16

LC₅₀ (Lebistes reticulatus guppy) 24 hours = 5700 mg/L/From table; pH not given, temp 20°C, hardness 27.5 mg/L/Calc.

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: D001.
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.

UN Identification Number: UN 1866
Proper Shipping Name: Resin solution, flammable
Hazard Class Number and Description: 3 (Flammable)
Packing Group: PG II
DOT Label(s) Required: Class 3 (Flammable)

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

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

UN Identification Number: UN 1866
Proper Shipping Name: Resin solution, flammable
Hazard Class Number and Description: 3 (Flammable)
Packing Group: PG II
Special Provisions: 83
Explosive Limit & Limited Quantity Index: 5

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

UN Identification Number: UN 1866
Proper Shipping Name: Resin solution, flammable
Hazard Class Number: 3 (Flammable)
Hazard Label(s) Required: Class 3 (Flammable)
Packing Group: II

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)

15. REGULATORY INFORMATION

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) (40 CFR 355, Appendix A)</th>
<th>SECTION 304 RQ (40 CFR Table 302.4)</th>
<th>SECTION 313 TRI (threshold) (40 CFR 372.65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methyl Ethyl Ketone</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Toluene</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): Methyl Ethyl Ketone = 5000 lb (2270 kg); Toluene = 1000 lb (454 kg)
15. REGULATORY INFORMATION (Continued)

ADDITIONAL U.S. REGULATIONS (continued):
U.S. Clean Air Act (CA 112r) Threshold Quantity (TQ): The Methyl Ethyl Ketone 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. This chemical is included on this list. Although the Diphenylmethane 4,4-Diisocyanate compound has no TQ, it is listed as a hazardous air pollutant (HAP) generally known or suspected to cause serious health problems under the Clean Air Act.

U.S. Clean Water Act Requirements: Toluene is designated as 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 these substances. This designation includes any formers and hydrates, as well as any solutions and mixtures containing this substance. Toluene is a Toxic Pollutant designated pursuant to section 307(a)(1) of the Federal Water Pollution Control Act and is subject to effluent limitations.

California Safe Drinking Water And Toxic Enforcement Act (Proposition 65): The Toluene component is on the California Proposition 65 lists.

WARNING: This product contains a chemical known to the State of California to cause cancer or developmental harm.

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: The Toluene component is on the CEPA Priority Substances 1 list, not considered as "TOXIC" under Section 64 of CEPA.
Methyl Ethyl Ketone is a Substance With Greatest Potential For Human Exposure Substance on Environment Canada/Health Canada Pilot Project List (CEPA 1999, Section 73). Meets the categorization criteria: *may present, to individuals in Canada, the greatest potential for exposure; or *are persistent or bio-accumulative in accordance with the regulations, and inherently toxic to human beings or to non-human organisms, as determined by laboratory or other studies.
Canadian WHMIS Regulations: This product is classified as a Controlled Product, Hazard Classes B2 (Flammable Liquid); and D2B (Poisonous and Infectious Material, Other effects/Toxic: Eye Irritation, Skin Irritation, Respiratory Tract and Skin Sensitization) as per the Controlled Product Regulations.

ADDITIONAL MEXICAN REGULATIONS:
Mexican Workplace Regulations (NOM-018-STPS-2000): This product is classified as hazardous.

16. OTHER INFORMATION

U.S. ANSI STANDARD LABELING (Precautionary Statements): DANGER! FLAMMABLE LIQUID. MAY BE HARMFUL IF INHALED OR INGESTED. MAY CAUSE EYE, SKIN AND RESPIRATORY IRRITATION; EYE IRRITATION MAY BE SEVERE. VAPORS MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. CONTAINS COMPOUNDS THAT ARE SUSPECT CARCINOGENS AND REPRODUCTIVE TOXINS. POSES ASPIRATION HAZARD IF SWALLOWED. MAY CAUSE SKIN SENSITIZATION. Avoid contact with eyes, skin, and clothing. Avoid breathing mist, vapors or fume. Do not touch 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 polypads 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.

GLOBAL HARMONIZATION SYSTEM CLASSIFICATION:
Classification: Flammable Liquid Category 2, Acute Inhalation Toxicity Category 5, Acute Dermal Toxicity Category 7, Acute Oral Toxicity Category 5, Reproductive Toxicity Category 2, Aspiration Hazard Category 1, Specific Target Organ Toxicity Repeated Exposure Category 2, Skin Irritation Category 3, Eye Irritation Category 2A, Specific Target Organ Toxicity (Inhalation-Central Nervous System, Respiratory Irritation) Single Exposure Category 3, Skin Sensitization Category 1B
Signal Word: Danger
Precautionary Statements:
Response: P308 + P313: If exposed or concerned: Get medical advice/attention. P370 + P378: In case of fire: Use materials appropriate for surrounding fire for extinction. P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P312: If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. 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 + P315 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. P337 + P313: If eye irritation persists: get medical advice/attention. 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
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:**

- NIOSH: National Institute for Occupational Safety and Health
- MAK: Maximum allowable concentration
- REL: Recommended exposure limit
- STEL: Short-term exposure limit
- TLV: Threshold limit value
- PEK: Permissible ceiling exposure
- PEL: Permissible exposure limit
- MAK: Maximum allowable concentration

**DEFINITIONS OF TERMS**

**CEILING LEVEL:** The concentration that shall not be exceeded during any part of the working exposure.

**TIME WEIGHTED AVERAGE (TWA):** A 24-hour time weighted average and/or 8-hour TWA concentration in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

**DFG MAK Germ Cell Mutagen Categories:**
- Category A: Germ cell mutations that have been shown to increase the mutation frequency in the progeny of exposed mammals.
- Category B: Substances that have been induced to cause genetic damage in germ cells of human or animals, which produce mutagenic effects in somatic cells of human or animals, but are not known to cause genetic damage in germ cells in an active form.
- Category C: 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.

**METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION**

- Key findings that indicate the appropriate use of the product are discussed below.

**REFERENCES AND DATA SOURCES:** Contact the supplier for information.

**REVISION DETAIL:**

- As of October 2012, update and revise entire SDS to include current GHS and OSHA changes.

**DATE OF PRINTING:**

- October 28, 2014

**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 CONTAINED HEREIN. 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. THE PERSONAL SAFETY OF USERS, interfered with our terms and conditions.

- 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. If possible, and the hazards are suitably classified and the material is furnished on the condition that the product is used for such purposes 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.

- Bridging principles were used to classify this product.


**DATE OF PRINTING:**

- October 28, 2014

**DEFINITIONS OF TERMS**

**Hazardous Materials Identification System Hazards (continued):**

**Flammability:**

- **0 Minimal Hazard:** Materials that will not burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes. **1 Slight Hazard:** Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93°C (200°F) (i.e. OSHA Class IIB); Most ordinary combustible materials (e.g. wood, paper, etc.). **2 Moderate Hazard:** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree of hazard, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of coarse dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors and gases. **3 Serious Hazard:** Materials that are readily capable of detonation or explosive effects are largely confined in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable liquids or gases; Materials that give off flammable vapors or gases even when under pressure and have a flash point below 22°C (75°F); and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IIA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.6°C (130°F) or below (pyrophoric).

**Aqueous Solution:**

- **0 Water Reactivity:** Materials that do not 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. **1 Compressed Gases:** Pressure below OSHA definition. Pyrophorics: No Rating. OXIDizers: No 0 (1.5 & 1.6 Explosives). Substances that do not react explosively when exposed to water, but do not release energy violently. Explosives: Division 1.4 explosives. Substances that may react violently with water.

**Organic Peroxides:**

- **0 Water Reactivity:** Materials that do not 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. **1 Compressed Gases:** Pressure below OSHA definition. Pyrophorics: No Rating. OXIDizers: No 0 (1.5 & 1.6 Explosives). Substances that do not react explosively when exposed to water, but do not release energy violently. Explosives: Division 1.4 explosives. Substances that may react violently with water.

**Unstable Reactives:**

- **0 Water Reactivity:** Materials that do not 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. **1 Compressed Gases:** Pressure below OSHA definition. Pyrophorics: No Rating. OXIDizers: No 0 (1.5 & 1.6 Explosives). Substances that do not react explosively when exposed to water, but do not release energy violently. Explosives: Division 1.4 explosives. Substances that may react violently with water.

**Pyrophorics:**

- **0 Water Reactivity:** Materials that do not 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. **1 Compressed Gases:** Pressure below OSHA definition. Pyrophorics: No Rating. OXIDizers: No 0 (1.5 & 1.6 Explosives). Substances that do not react explosively when exposed to water, but do not release energy violently. Explosives: Division 1.4 explosives. Substances that may react violently with water.

**Organic Peroxides:**

- **0 Water Reactivity:** Materials that do not 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. **1 Compressed Gases:** Pressure below OSHA definition. Pyrophorics: No Rating. OXIDizers: No 0 (1.5 & 1.6 Explosives). Substances that do not react explosively when exposed to water, but do not release energy violently. Explosives: Division 1.4 explosives. Substances that may react violently with water.

**Unstable Reactives:**

- **0 Water Reactivity:** Materials that do not 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. **1 Compressed Gases:** Pressure below OSHA definition. Pyrophorics: No Rating. OXIDizers: No 0 (1.5 & 1.6 Explosives). Substances that do not react explosively when exposed to water, but do not release energy violently. Explosives: Division 1.4 explosives. Substances that may react violently with water.
DEFINITIONS OF TERMS (Continued)

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS:

HEALTH HAZARD: 0 Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors with an LC50 for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC50 for acute inhalation toxicity greater than 200 mg/L. Materials with an LD50 for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD50 for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-irritating to the respiratory tract, eyes, and skin. 1 Materials that, under emergency conditions, can cause significant irritation. Gases and vapors with an LC50 for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC50 for acute inhalation toxicity greater than 10 mg/L but less than or equal to 20 mg/L. Materials with an LD50 for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes, and skin. With an LD10 for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. 2 Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases with an LC50 for acute inhalation toxicity greater than 3,000 ppm but less than or equal to 5,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Dusts and mists with an LC50 for acute inhalation toxicity greater than 2 mg/L, but less than or equal to 10 mg/L. Materials with an LD50 for acute dermal toxicity greater than 200 mg/kg but less than or equal to 1000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lacrmaryators. Materials that are primary skin irritants or sensitizers. Materials whose LC50 for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. 3 Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC50 for acute inhalation toxicity greater than 1,000 ppm but less than or equal to 3,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Dusts and mists with an LC50 for acute inhalation toxicity greater than 0.5 mg/L, but less than or equal to 2 mg/L. Materials with an LD50 for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Corrosive materials to the skin. Cyanogenic gases that cause frothbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -55°C (-66.5°F) that cause frothbite and irreversible tissue damage. Materials with an LD50 for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg. 4 Materials that, under emergency conditions, can be lethal. Gases with an LC50 for acute inhalation toxicity less than or equal to 1.000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC50 for acute inhalation toxicity, if its LC50 is less than or equal to 1000 ppm. Materials that are primary skin irritants and sensitizers. Materials whose LD50 for acute oral toxicity is less than or equal to 50 mg/kg. 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 0.01 J/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) or at 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) of 100 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. LE.L. Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. LLE. 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 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 (gases) that kills 50% of the exposed animals. EXPOSURE CONC. Concentration expressed in parts per million parts of air or water. mg/m3. Concentration expressed in weight of substance per volume of air. mg/kg. Quantity of material, by weight, administered to a test subject, based on their body weight. mg/kg. LEL: Lowest dose to cause an unconsciousness. TEL. Lowest concentration to cause a symptom. TLV. TLV. TWA: Time Weighted Average. AEGL: Acute Exposure Guideline Levels. OEL:Occupational Exposure Limit. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. 1: Probably Human Carcinogen. 2: Possibly Human Carcinogen. 3: Not Classifiable as to Human Carcinogenicity. 4: Known to be Carcinogenic to Humans. A1: The chemical is a known human carcinogen. A2: The chemical is a probable human carcinogen.

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. TEL: Median threshold limit. Kg/K. Log Kg/K. 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, a professional association that establishes exposure limits. 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 precautionary warnings that appear on the package label.

CANADA:

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