Canada Colors and Chemicals Limited

152 Kennedy Road South
Brampton, Ontario
Canada
L6W 3G4

General Inquiry Number: (905) 459-1232

Material Safety Data Sheet Attached
Material Safety Data Sheet
LA1748
Glycol Ether EP

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Id: LA1748
Product Name: Glycol Ether EP
Synonyms: None
Chemical Family: None Known
Application: Solvent.

Distributed By:
Univar Canada Ltd.
9800 Van Horne Way
Richmond, BC
V6X 1W5

Prepared By: The Environment, Health and Safety Department of Univar Canada Ltd.
Preparation date of MSDS: 05/Aug/2015
Telephone number of preparer: 1-866-686-4827

2. HAZARDS IDENTIFICATION

Potential Acute Health Effects:
Eye Contact: Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva. May cause corneal injury.
Skin Contact: Causes mild skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. Harmful if absorbed through the skin.
Inhalation: May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Percentage (W/W)</th>
<th>LD50s and LC50s Route &amp; Species:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol Monopropyl Ether 2807-30-9</td>
<td>100</td>
<td>Oral LD50 (Rat) = 3089 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dermal LD50 (Rabbit) = 960 μL/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dermal LD50 (Rabbit) 873 mg/kg</td>
</tr>
</tbody>
</table>

Note: No additional remark.
4. FIRST AID MEASURES

Eye Contact: In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse. Destroy or thoroughly clean contaminated shoes.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.

Notes to Physician: Treatment based on sound judgment of physician and individual reactions of patient.

5. FIRE FIGHTING MEASURES

Flash Point: 49 °C / 120 °F
Flash Point Method: Setaflash.
Autoignition Temperature: 235°C / 455°F
Flammable Limits in Air (%): Not Available.
Extinguishing Media: Use DRY chemicals, CO2, alcohol foam or water spray.
Special Exposure Hazards: Isolate and restrict area access. Do not direct a solid stream of water or foam into hot, burning pools; this may cause frothing and increase fire intensity. Use fine water spray or fog to control fire spread and cool adjacent structures or containers. This material may produce a floating fire hazard in extreme fire conditions. Keep out of low areas where gases (fumes) can accumulate. Fight fire from a safe distance and from a protected location. Consider use of unmanned hose holder or monitor nozzles. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Forms peroxides of unknown stability.
Special Protective Equipment: Fire fighters should wear full protective clothing, including self-contained breathing equipment.

NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 2, FLAMMABILITY 2, INSTABILITY 0
HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 2, FLAMMABILITY 2, REACTIVITY 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Wear appropriate protective equipment.
Environmental Precautionary Measures: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Consult local authorities.
Procedure for Clean Up: Isolate hazard area and restrict access. Stop leak only if safe to do so. Remove ignition sources and work with non-sparking tools. Small spills: soak up with absorbent material and scoop into containers. Large spills: prevent contamination of waterways. Dike and pump into suitable containers. Clean up residual with absorbent material, place in appropriate container and flush with water.

7. HANDLING AND STORAGE

Handling: For industrial use only. Handle and open containers with care. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid inhalation of chemical. Empty containers may contain hazardous product residues. Keep the containers closed when not in use. Protect against physical damage. Use appropriate personnel protective equipment. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. If peroxide formation is suspected, do not open or move container. Do not distill to near dryness.
Storage: Store in a cool, dry, well ventilated area, away from heat and ignition sources. Place away from incompatible materials.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Respiratory Protection: If exposure exceeds occupational exposure limits, use an appropriate NIOSH approved respirator. In case of spill or leak resulting in unknown concentration, use a NIOSH approved supplied air respirator. Air purifying respirator with organic vapor cartridges.

Gloves:
Use gloves chemically resistant to this material, examples of preferred glove barrier materials include: Butyl rubber gloves. Ethyl Vinyl Alcohol Laminate (EVAL). Examples of acceptable glove barrier materials include: Natural rubber gloves. Neoprene gloves. Nitrile gloves. Polyvinylchloride (PVC) gloves. Viton gloves. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials as well as the instructions/specifications provided by the glove supplier.

Skin Protection: Skin contact should be prevented through the use of suitable protective clothing, gloves and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.

Eyes: Chemical safety glasses with side shields or splash proof goggles. Also wear a face shield if splashing hazard exists.

Other Personal Protection Data: Ensure that eyewash stations and safety showers are proximal to the work-station location. Chemical resistant footwear.

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Exposure Limit - ACGIH</th>
<th>Exposure Limit - OSHA</th>
<th>Immediately Dangerous to Life or Health - IDLH</th>
</tr>
</thead>
</table>

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid
Color: Colorless
Odor: Mild
pH: Not Available.
Specific Gravity: 0.913 @ 20°C
Boiling Point: 150°C /302°F
Freezing/Melting Point: -90°C / -130°F
Vapor Pressure: 1.7 mbar @ 20°C
Vapor Density: 3.6
% Volatile by Volume: 100
Evaporation Rate: 0.22
Solubility: Soluble in water.
VOCs: Not Available.
Viscosity: 2.65 mm2/s @ 25°C
Molecular Weight: 104 g/mol
Other: Not Available.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.
Hazardous Polymerization: Will not occur.
Conditions to Avoid: Keep away from heat, sparks and flame. Forms peroxides of unknown stability.
Materials to Avoid: Strong oxidizing agents.
Hazardous Decomposition Products: Carbon monoxide. Carbon dioxide.
Additional Information:
No additional remark.
11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: May be harmful if swallowed.

Skin Contact: Causes mild skin irritation. Prolonged or repeated exposure may cause skin irritation, even a burn. Harmful if absorbed through the skin.

Inhalation: May be harmful if inhaled.

Eye Contact: Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, with marked excess redness and swelling of the conjunctiva. May cause corneal injury.

Additional Information: Potential Effects of Repeated Exposure: In animals, effects have been reported on the following organs: blood (hemolysis) and secondary effects on the kidney and liver. Human red blood cells have been shown to be significantly less sensitive to hemolysis than those of rodents and rabbits. Skin contact may aggravate an existing dermatitis. Inhalation of material may aggravate asthma and inflammatory or fibrotic pulmonary disease.

Acute Test of Product:

Acute Oral LD50: Not Available.

Acute Dermal LD50: Not Available.

Acute Inhalation LC50: Not Available.

Carcinogenicity:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>IARC - Carcinogens</th>
<th>ACGIH - Carcinogens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene Glycol Monopropyl Ether</td>
<td>Not listed.</td>
<td>Not listed.</td>
</tr>
</tbody>
</table>

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: Indications of a mild fetotoxic response (delayed development as indicated by incomplete bone ossification) have been observed in laboratory animal studies with ethylene glycol monopropyl ether but only at inhalation exposure concentrations which produced maternal toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Ecotoxicity - Fish Species Data</th>
<th>Acute Crustaceans Toxicity:</th>
<th>Ecotoxicity - Freshwater Algae Data</th>
</tr>
</thead>
</table>

Other Information:

No additional remark.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

Contaminated Packaging: Empty containers should be recycled or disposed of through an approved waste management facility.

14. TRANSPORT INFORMATION

DOT (U.S.):

DOT Shipping Name: COMBUSTIBLE LIQUID N.O.S. (ETHYLENE GLYCOL MONOPROPYL ETHER)

DOT Hazardous Class: COMBUSTIBLE

DOT UN Number: NA1993

DOT Packing Group: III

DOT Reportable Quantity (lbs): Not Available.

Note: This product is regulated as a hazardous material according to the Department of Transport in bulk quantities (greater than 119 gallons per package) only.
14. TRANSPORT INFORMATION

Marine Pollutant: No.

TDG (Canada):
TDG Shipping Name: FLAMMABLE LIQUID, N.O.S. (ETHYLENE GLYCOL MONOPROPYL ETHER)
Hazard Class: 3
UN Number: UN1993
Packing Group: III
Note: Not regulated under the Transportation of Dangerous Goods Act when transported by road or rail in packagings or containers of 450 L or less (waste excluded).
Marine Pollutant: No.

15. REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

U.S. Regulatory Rules

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CERCLA/SARA - Section 302:</th>
<th>SARA (311, 312) Hazard Class:</th>
<th>CERCLA/SARA - Section 313:</th>
</tr>
</thead>
</table>

California Proposition 65: Not Listed.
MA Right to Know List: Not Listed.
New Jersey Right-to-Know List: Not Listed.
Pennsylvania Right to Know List: Not Listed.

Additional Notes: Not Available.

WHMIS Hazardous Class:
B3 COMBUSTIBLE LIQUIDS
D1B TOXIC MATERIALS
D2B TOXIC MATERIALS
16. OTHER INFORMATION

Additional Information: This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

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Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar Sales Office.

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***END OF MSDS***