Section 1 - Product and Company Information

Product Name: POLY(ETHYLENE GLYCOL) DIMETHYL ETHER, &
Product Number: 445878
Brand: ALDRICH
Company: Sigma-Aldrich Canada, Ltd
Address: 2149 Winston Park Drive
         Oakville ON L6H 6J8 CA
Technical Phone: 9058299500
Fax: 9058299292
Emergency Phone: 800-424-9300

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 313</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLY(ETHYLENE GLYCOL) DIMETHYL ETHER</td>
<td>24991-55-7</td>
<td>No</td>
</tr>
<tr>
<td>Carpol CLE 1000 * CLE 400 * Dimethoxy polyethylene glycol * Genosorb 175 * Genosorb 300 * Glyme-23 * alpha,omega-Methoxypoly(ethylene oxide) * alpha-Methyl-omega-methoxypoly(oxy-1,2-ethanediyl) * Nissan Unisafe MM 400 * Nissan Unisafe MM 1000 * PEG-DME 2000 * PEGDME * Polyethylene glycol dimethyl ether * Poly(oxy-1,2-ethanediyl), alpha-methyl-omega-methoxy- (9CI) * Polyoxyethylene dimethyl ether * Sanfine DM 200 * Sanfine DM 400 * Sanfine DM 1000 * Selexol * U-Nox DM 200 * U-Nox DM 1000 * Varonic DM 55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RTECS Number: MC9630000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

HMIS RATING
HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 0

NFPA RATING
HEALTH: 0
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician.
INHALATION EXPOSURE
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE
In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
312.8 °F   156 °C   Method: closed cup

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

METHODS FOR CLEANING UP
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection is desired, use multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges.
Hand: Protective gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Form: Clear liquid</td>
<td></td>
</tr>
<tr>
<td>Color: Slightly brown-yellow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>BP/BP Range</td>
<td>&gt; 250 °C</td>
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</tr>
<tr>
<td>MP/MP Range</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Freezing Point</td>
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<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
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<tr>
<td>Vapor Density</td>
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<tr>
<td>Saturated Vapor Conc.</td>
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<tr>
<td>SG/Density</td>
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<tr>
<td>Bulk Density</td>
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<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
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<td></td>
</tr>
<tr>
<td>Volatile%</td>
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<td></td>
</tr>
<tr>
<td>VOC Content</td>
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<td></td>
</tr>
<tr>
<td>Water Content</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Solvent Content</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Evaporation Rate</td>
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</tr>
<tr>
<td>Viscosity</td>
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<tr>
<td>Surface Tension</td>
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<td></td>
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<tr>
<td>Partition Coefficient</td>
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<td></td>
</tr>
<tr>
<td>Decomposition Temp.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>312.8 °F 156 °C Method: closed cup</td>
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</tr>
<tr>
<td>Explosion Limits</td>
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<tr>
<td>Flammability</td>
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<tr>
<td>Autoignition Temp</td>
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<tr>
<td>Refractive Index</td>
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<td>Optical Rotation</td>
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<tr>
<td>Miscellaneous Data</td>
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<tr>
<td>Solubility</td>
<td>N/A</td>
<td></td>
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</tbody>
</table>

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions to Avoid: Moisture.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.
Ingestion: May be harmful if swallowed.

SIGNS AND SYMPTOMS OF EXPOSURE
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

IRRITATION DATA

Skin
Rabbit
0.5 ml
24H
Remarks: Mild irritation effect

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rabbit
Dose: 2500 MG/KG
Route of Application: Oral
Exposure Time: (1D MALE)

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No
DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
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