**Product Name:** Glycol Ether DPM

**Safety Data Sheet**

1. **PRODUCT IDENTIFICATION**

   **Name**
   - Glycol Ether DPM
   - dipropylene glycol (mono) methyl ether; 1-(2-methoxy-1-methylethoxy)-2-propanol;
   - 1-(2-methoxyisoproxy)-2-propanol; glycol ether DPM; DPGME

   **Synonyms**
   - dipropylene glycol (mono) methyl ether; 1-(2-methoxy-1-methylethoxy)-2-propanol;
   - 1-(2-methoxyisoproxy)-2-propanol; glycol ether DPM; DPGME

   **CAS#**
   - 34590-94-8

   **Europe EC#**
   - 252-104-2

   **Product Uses**
   - solvent in coatings & cleaners; heat transfer fluid, low toxicity substitute for glycol ether DM

2. **HAZARDS**

   **Quick Guide:** combustible liquid

   **Canada – WHMIS**
   - **Key:**
     - B 3
     - B 2 – Flash Point <38°C, B 3 – Flash Point >38°C & <93°C
     - D 1 – Immediately Toxic, D 2 – Chronic Toxicity
     - C – Oxidising Substance, E – Corrosive, F – Reactive Substance

   **U.S.A. – HMIS**
   - **Key:**
     - Health – 0/1, Fire – 2, Reactivity – 0
     - 0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe

3. **COMPOSITION**

<table>
<thead>
<tr>
<th>%</th>
<th>TWAEV / TLV mg/m³</th>
<th>LD₅₀ (mg/kg) ORAL</th>
<th>LD₅₀ (mg/kg) SKIN</th>
<th>LC₅₀ ppm INHALATION above 500</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>100 (skin)</td>
<td>5130</td>
<td>&gt;13,000</td>
<td>500</td>
</tr>
</tbody>
</table>

4. **FIRST AID**

   **SKIN:**
   - Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.

   **EYES:**
   - Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.

   **INHALATION:**
   - Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If breathing stops, administer artificial respiration and seek medical aid promptly.

   **INGESTION:**
   - Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim’s head below hips to prevent inhalation of vomited material. Seek medical help promptly.

   *Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.*

5. **FIRE FIGHTING & FLAMMABILITY**

   **Flash Point**
   - 85°C / 185°F (closed cup)

   **Autoignition Temperature**
   - 270°C / 518°F

   **Flammable Limits**
   - 1.1% – 3.0%

   **Combustion Products**
   - carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments

   **Fire Fighting**
   - alcohol or polymer foam, dry chemical, water fog or spray; fire fighters must wear SCBA

   **Static Charge Accumulation**
   - cannot accumulate a static charge on agitation or pumping

*Please ensure that this MSDS is given to, and explained to people using this product.*
6. **ACCIDENTAL RELEASE MEASURES**

Leak Precaution  dyke to control spillage and prevent environmental contamination
Handling Spill  ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep, shovel & store in closed containers for recycling or disposal

7. **HANDLING & STORAGE**

Store in a cool, dry environment, away from sources of ignition and oxidising agents.
This product may react with oxygen in the air to form explosive or flammable peroxides. The rate of any such reaction is likely to be slow and cause no problems in normal use. However distillation tends to concentrate any peroxides which may have formed. Never distil to dryness, as this may cause an explosion. If prolonged storage is anticipated, ensure that containers are full and tightly sealed.
Avoid breathing product vapour. Use with adequate ventilation. Never cut, drill, weld or grind on or near this container. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

8. **EXPOSURE CONTROL & PERSONAL PROTECTION**

<table>
<thead>
<tr>
<th>Ontario TWAEV</th>
<th>100ppm / 605mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACGIH TLV</td>
<td>100ppm / 606mg/m³ (skin)</td>
</tr>
<tr>
<td>OSHA PEL</td>
<td>100ppm / 600mg/m³ (skin)</td>
</tr>
<tr>
<td>OSHA STEL</td>
<td>150ppm / 900mg/m³</td>
</tr>
<tr>
<td>Ventilation</td>
<td>no special ventilation required</td>
</tr>
<tr>
<td>Hands</td>
<td>no special protective gloves required – butyl gloves are likely to be resistant</td>
</tr>
<tr>
<td>Eyes</td>
<td>safety glasses with side shields – <em>always protect the eyes</em></td>
</tr>
<tr>
<td>Clothing</td>
<td>no special protective clothing required</td>
</tr>
</tbody>
</table>

9. **PHYSICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Odour &amp; Appearance</th>
<th>clear, colourless liquid with mild ether odour &amp; a bitter taste</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour Threshold</td>
<td>35ppm</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>0.38mmHg / 0.05kPa (25°C / 77°F)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>0.02 (Butyl Acetate = 1)</td>
</tr>
<tr>
<td>Vapour Density (air = 1)</td>
<td>5.1</td>
</tr>
<tr>
<td>Boiling Range</td>
<td>190°C / 374°F</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>-83°C / -117°F</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.95 (20/20°C)</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>complete</td>
</tr>
<tr>
<td>Also soluble in</td>
<td>most organic solvents</td>
</tr>
<tr>
<td>Viscosity</td>
<td>3.5 centipoise (25°C / 77°F)</td>
</tr>
<tr>
<td>pH</td>
<td>none – (<em>does not liberate hydrogen ions when dissolved</em>)</td>
</tr>
<tr>
<td>Conversion Factor</td>
<td>1ppm = 6.05mg/m³</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>148 grams per mole</td>
</tr>
</tbody>
</table>

10. **REACTIVITY**

| Dangerously Reactive With | strong oxidising agents                                      |
| Also Reactive With        | not known                                                    |
| Stability                 | stable; will not polymerize                                  |
| Decomposes in Presence of | oxygen plus ultraviolet light                                |
| Decomposition Products    | apart from Hazardous Combustion Products; explosive peroxides may form |
| Sensitive to Mechanical Impact | no                                                             |

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11. **TOXICITY**

**Effects, Acute Exposure**
- **Skin Contact**: little or no effect
- **Skin Absorption**: yes; no toxic effects likely by this route
- **Eye Contact**: slight & temporary irritation
- **Inhalation**: irritating above 75ppm but low vapour pressure makes this unlikely; mists of 1000ppm cause headache, dizziness, intoxication, drowsiness, but >100ppm “would not be tolerated willingly”
- **Ingestion**: not known, low toxicity – *not a route of industrial exposure*

**Effects, Chronic Exposure**
- **General**: none known
- **Sensitising**: not a sensitisier in humans or animals
- **Carcinogen/Tumorigen**: not considered a tumorigen or a carcinogen in humans or animals
- **Reproductive Effect**: no known effect in humans or animals
- **Mutagen**: no known effect on humans or animals
- **Synergistic With**: not known
- **LD<sub>50</sub> (oral)**: 5130 & 5225mg/kg (rat), 7130mg/kg (dog)
- **LD<sub>50</sub> (skin)**: 13,000-14,000 & >19,080mg/kg (rabbit)
- **LC<sub>50</sub> (inhalation)**: above 500ppm (*no mortality*)

12. **ECOLOGICAL INFORMATION**

- **Bioaccumulation**: not a bioaccumulator due to high water solubility and rapid rate of elimination/metabolism
- **Biodegradation**: degrades readily in the presence of oxygen; various rates reported from 93% in 13d to 34% in 28d (in sewage sludge)
- **Abiotic Degradation**: direct photolysis is reported to cause destruction with a ½-life of 3-4 hours
- **Mobility in soil, water**: water soluble; moves readily in soil and water
- **Aquatic Toxicity**
  - **LC<sub>50</sub> (Fish, 96hr)**: 10,000mg/litre (Pimephales promelas),
  - **LC<sub>50</sub> (Crustacea, 48hr)**: above 1000mg/litre (Crangon crangon, 96hr), 1920mg/litre (Daphnia magna)
  - **EC<sub>50</sub> (Algae)**: no data available
  - **EC<sub>10</sub> (Bacteria)**: 4168mg/litre (Pseudomonas putida) – *this is an EC<sub>10</sub> not an EC<sub>50</sub>*

13. **DISPOSAL**

- **Waste Disposal**: *do not flush to sewer*, recycle solvent if possible, may be incinerated in approved facility
- **Containers**
  - **Drums**: should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.
  - **Pails**: must be vented and thoroughly dried prior to crushing and recycling.
  - **IBCs** (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs). Steel containers must be inspected, pressure tested & recertified every 5 years.
  - *Never cut, drill, weld or grind on or near this container, even if empty*

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14. TRANSPORT CLASSIFICATION

Canada TDG
PIN: UN – not regulated for transport
Shipping Name: not regulated for transport
Class & Packing Group: not regulated for transport

U.S.A. 49 CFR
PIN: NA-1993
Shipping Name: COMBUSTIBLE LIQUIDS N.O.S. (dipropylene glycol methyl ether)
Class & Packing Group: 3, combustible

Marine Pollutant: not a marine pollutant
ERAP Required: NO

EMERGENCY INFORMATION

Canada
Call CANUTEC (collect) (613) 996-6666

U.S.A.
Call CHEMTREC (800) 424-9300

15. REGULATIONS

Canada DSL: on inventory
U.S.A. TSCA: on inventory
Europe EINECS: on inventory

Immediately Dangerous to Life or Health: 600 ppm

Allowable Tolerances: Dipropylene glycol monomethyl ether is exempted from the requirement of a tolerance when used as a stabilizer in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only. Dipropylene glycol monomethyl ether is exempted from the requirement of a tolerance when used as a surfactant or a related adjuvant of a surfactant in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals.

OSHA Standards: Permissible Exposure Limit: Table Z-1 8-hr Time-Weighted Avg: 100 ppm (600 mg/cu m). Skin Designation. Vacated 1989 OSHA PEL TWA 100 ppm (600 mg/cu m); STEL 150 ppm (900 mg/cu m), skin designation, is still enforced in some states.

NIOSH Recommendations: Recommended Exposure Limit: 10 Hr Time-Weighted avg: 100 ppm (600 mg/cu m); skin. Recommended Exposure Limit: 15 Min Short-Term Exposure Limit: 150 ppm (900 mg/cu m); skin.

Threshold Limit Values: 8 hr Time Weighted Avg (TWA): 100 ppm; 15 min Short Term Exposure Limit (STEL): 150 ppm, skin.

FIFRA Requirements: Dipropylene glycol monomethyl ether is exempted from the requirement of a tolerance when used as a surfactant or a related adjuvant of a surfactant in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals.

FDA Requirements: Dipropylene glycol monomethyl ether is an indirect food additive for use only as a component of adhesives.

16. OTHER INFORMATION

Prepared for Megaloid Laboratories by Peter Bursztyn, (705) 734-1577
Data from RTECS, HSDB (Haz. Substance Data Base), Cheminfo (CCOHS), IUCLID Datasheets (ESIS – European Chem. Substance Info. System), & others.
Preparation Date: June 2006 Revision Date: June 2009, June 2012

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