Material Safety Data for: Glycol Ether DE Acetate

1. **PRODUCT IDENTIFICATION**

   **Name**: Diethylene Glycol Monoethyl Ether Acetate
   **Synonyms**: 2-(2-Ethoxyethoxy)ethyl acetate,
   **CAS#**: 112-15-2
   **Product Uses**: solvent, coupling agent

2. **INGREDIENTS**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>%</th>
<th>TWAEV / TLV ppm / mg/m³</th>
<th>LD₅₀ (mg/kg) ORAL</th>
<th>LD₅₀ (mg/kg) SKIN</th>
<th>LC₅₀ ppm INHALATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diethylene Glycol Monoethyl Ether</td>
<td>100</td>
<td>not listed</td>
<td>3930</td>
<td>15,250</td>
<td>not known</td>
</tr>
</tbody>
</table>

3. (a) **HAZARDS SUMMARY**

   **Canada – WHMIS**: not controlled under WHMIS
   **Key**:
   - 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

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

3. (b) **HAZARDS – TOXICITY**

   **Effects, Acute Exposure**
   - **Skin Contact**: may be slightly irritating
   - **Skin Absorption**: yes; no toxic effects likely by this route
   - **Eye Contact**: may be slightly irritating
   - **Inhalation**: may irritate but low vapour pressure makes this unlikely
   - **Ingestion**: not known – not a route of industrial exposure

   **Effects, Chronic Exposure**
   - **General**: prolonged exposure may cause dermatitis; prolonged absorption in rats & guinea pigs rabbits caused kidney damage (only visible on autopsy) – unlikely route of industrial exposure, particularly in view of bitter taste
   - **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
   - **LD₅₀ (oral)**: 11,000mg/kg (rat), 4400mg/kg (rabbit), 3930mg/kg (guinea pig)
   - **LD₅₀ (skin)**: 15,250mg/kg (rabbit)
   - **LC₅₀ (inhalation)**: not known

Please ensure that this MSDS is given to, and explained to people using this product.
4. FIRST AID

SKIN: Wash with soap and plenty of water. Remove contaminated clothing and do not reuse until thoroughly cleaned or 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. PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odour &amp; Appearance</td>
<td>clear, colourless, hygroscopic liquid with mild, sweetish odour and bitter taste</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>not known</td>
</tr>
<tr>
<td>Vapour Pressure</td>
<td>0.1mmHg / 0.013kPa (20°C / 68°F)</td>
</tr>
<tr>
<td>Evaporation Rate (Butyl Acetate = 1)</td>
<td>below 0.8</td>
</tr>
<tr>
<td>Vapour Density (air = 1)</td>
<td>6</td>
</tr>
<tr>
<td>Boiling Range</td>
<td>219°C / 426°F</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>-25°C / -13°F</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.01 (20/20°C)</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>1000 grams per litre (20°C / 68°F)</td>
</tr>
<tr>
<td>Viscosity</td>
<td>2.8centipoise (25°C / 77°F)</td>
</tr>
<tr>
<td>pH</td>
<td>none – (does not liberate hydrogen ions when dissolved)</td>
</tr>
<tr>
<td>Conversion Factor</td>
<td>1ppm = 7.2mg/m³</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>171grams per mole</td>
</tr>
</tbody>
</table>

6. FLAMMABILITY & FIRE FIGHTING

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash Point</td>
<td>107°C / 225°F (closed cup)</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>360°C / 680°F</td>
</tr>
<tr>
<td>Flammable Limits</td>
<td>1% - 19.4%</td>
</tr>
<tr>
<td>Combustion Products</td>
<td>carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments</td>
</tr>
<tr>
<td>Firefighting Precautions</td>
<td>foam, dry chemical, water fog, water spray only to cool &amp; dilute, product floats on water – water jet spreads flames; firefighters must wear SCBA</td>
</tr>
<tr>
<td>Static Charge Accumulation</td>
<td>cannot accumulate a static charge on agitation or pumping</td>
</tr>
</tbody>
</table>

7. STABILITY / REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dangerously Reactive With</td>
<td>strong oxidising agents</td>
</tr>
<tr>
<td>Also Reactive With</td>
<td>none known</td>
</tr>
<tr>
<td>Stability</td>
<td>stable; will not polymerize</td>
</tr>
<tr>
<td>Decomposes in Presence of</td>
<td>not known</td>
</tr>
<tr>
<td>Decomposition Products</td>
<td>none apart from Hazardous Combustion Products</td>
</tr>
<tr>
<td>Sensitive to Mechanical Impact</td>
<td>no</td>
</tr>
</tbody>
</table>
8. **PROTECTIVE EQUIPMENT / EXPOSURE CONTROL**

- **TWAEV / TLV**: not listed
- **STEL**: not listed
- **Ventilation**: not required unless product mist is generated in processing
- **Hands**: neoprene gloves may be worn – consult supplier to confirm suitability
- **Eyes**: safety glasses with side shields – always protect the eyes
- **Clothing**: no special protective clothing required

9. **HANDLING & STORAGE**

Store in a cool, dry environment, away from sources of ignition, heat and oxidising agents. Empty containers may contain a flammable / explosive vapour. Always ensure that containers, whether empty or full, or part full, are tightly sealed unless in use.

Avoid breathing product mist. 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.

10. **SPILL PROCEDURES**

- **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 & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal

11. **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*

12. **ENVIRONMENTAL INFORMATION**

- **Bioaccumulation**: this product is not a bioaccumulator
- **Biodegradation**: this product degrades readily in the presence of oxygen; 60% biodegradation in 10 days
- **Abiotic Degradation**: this product reacts with atmospheric hydroxyl radicals; its estimated half-life in air is 13 hours; hydrolyses in water with a half-life of 300 days at pH 7 and 30 days at pH 8
- **Mobility in soil, water**: this product is highly water soluble and will move readily in soil and water

*Please ensure that this MSDS is given to, and explained to people using this product.*
13. TRANSPORT REGULATIONS

**Canada TDG**
- PIN: UN-not regulated for transport
- Shipping Name: not regulated for transport
- Class: not regulated for transport
- Packing Group: not regulated for transport

**U.S.A. 49 CFR**
- PIN: UN- not regulated for transport
- Shipping Name: not regulated for transport
- Class: not regulated for transport
- Packing Group: not regulated for transport

Marine Pollutant: not a marine pollutant

14. 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

**Atmospheric Standards:** This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMII process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non air quality health and environmental impact and energy requirements. Diethylene glycol monoethyl ether acetate is produced, as an intermediate or a final product, by process units covered under this subpart.

**TSCA Requirements:** Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting Rule. The section 8(d) model rule requires manufacturers, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. Ethanol, 2-(2-ethoxyethoxy)- acetate is included on this list. Section 8(a) of TSCA requires manufacturers of this chemical substance to report preliminary assessment information concerned with production, use, and exposure to EPA as cited in the preamble in 51 FR 41329.

**FDA Requirements:** Diethylene glycol monoethyl ether acetate is an indirect food additive for use only as a component of adhesives.

16. PREPARATION INFORMATION

*Prepared for Megaloid Laboratories by Peter Bursztyn, (705) 734-1577*

*Data from RTECS, Haz. Substance Data Base, Cheminfo, manufacturer data, and other source, as available*

*Preparation Date: January 2004  Revision Date: February 2007*