SDS
PROPYLENE GLYCOL MONOPROPYL ETHER

Section 1 - Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier:
Substance name: Propylene Glycol Monopropyl Ether
Synonyms: 1-Propoxy-2-propanol; Propylene glycol-n-monopropyl ether; Glycol Ether PNP
CAS Number: 1569-01-3
EC Number: 216-372-4
REACH pre-registration No.: Not available.

1.2 Relevant Identified Uses of the Substance and Uses Advised Against
Relevant identified uses: solvent in cleaners, grease and paint removers, and coalescent in water-based latex coatings.
Uses advised against: None known.

1.3 Details of the Supplier of the Safety Data Sheet
Distributed By: TRInternational, Inc.
600 Stewart Street, Suite 1801
Seattle, WA 98101 – USA
Ph: 206-505-3500

1.4. Emergency telephone number
Emergency number: 24 HR INFOTRAC
1-800-535-5053 (24 hours) Acct # 79932 / 001-352-323-3500 (24 hours) Acct # 79932

Section 2 - Hazards Identification

2.1 Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Regulation (EC) No 1272/2008 (CLP)</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class &amp; Category</td>
<td></td>
</tr>
<tr>
<td>Flammable liquids, Category 3</td>
<td>H226 Flammable liquid and vapour</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation, Category 2</td>
<td>H319 Causes serious eye irritation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EU Directives 67/548/EEC or 1999/45/EC</th>
<th>R-phrase(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard characteristics</td>
<td>R10</td>
</tr>
<tr>
<td>Flammable.</td>
<td></td>
</tr>
</tbody>
</table>
2.2 Label Elements
Labeling - Regulation (EC) No 1272/2008

Hazard pictograms

Signal word: Warning

Hazards statement:
- H226 Flammable liquid and vapor.
- H319 Causes serious eye irritation.

Precautionary statements:
- P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P370+P378: In case of fire use appropriate media for extinction.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P403+P235: Store in a well-ventilated place. Keep cool.
- P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.3 Other Hazards: No information available.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Concentration</th>
<th>Classification: REGULATION (EC) No 1272/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene Glycol Monopropyl Ether</td>
<td>1569-01-3</td>
<td>216-372-4</td>
<td>&gt; 99.0 %</td>
<td>Flam. Liq., 3, H226 Eye cor/irr, 2, H319</td>
</tr>
</tbody>
</table>

Section 4 - First Aid Measures

4.1 Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin Contact: Wash skin with plenty of water.

Eye Contact: Immediately flush eyes with water; remove contact lenses, if present, after the first
5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Eye wash fountain should be located in immediate work area.

**Ingestion:** If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

**4.2 Most important symptoms and effects, both acute and delayed**
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**4.3 Indication of immediate medical attention and special treatment needed**
If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

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**Section 5 - Firefighting Measures**

**5.1 Extinguishing Media**
Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**5.2 Special hazards arising from the substance or mixture**
**Hazardous Combustion Products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

**5.3 Advice for firefighters**
**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Avoid accumulation of water. Product may be carried across water surface spreading fire or contacting an ignition source.

**Special Protective Equipment for Firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat,
trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures: No smoking in area. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Vapor explosion hazard. Keep out of sewers. Isolate area. Refer to Section 7, Handling, for additional precautionary measures. Keep unnecessary and unprotected personnel from entering the area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

6.3 Methods and materials for containment and cleaning up: Small spills: Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Contain spilled material if possible. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

General Handling: Keep away from heat, sparks and flame. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Avoid contact with eyes. Wash thoroughly after handling. Avoid breathing vapor. Use with adequate ventilation. Keep container closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

7.2 Conditions for safe storage, including any incompatibilities

Storage


7.3 Specific end uses

See the technical data sheet on this product for further information.
Section 8 - Exposure Controls / Personal Protection

8.1 Control parameters
Exposure Limits
None established

8.2 Exposure controls
Personal Protection

Eye/Face Protection: Use chemical goggles. Chemical goggles should be consistent with EN
166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.

Skin Protection: When prolonged or frequently repeated contact could occur, use protective
Clothing chemically resistant to this material. Selection of specific items such as faceshield, boots,
apron, or full-body suit will depend on the task.

Respiratory Protection: Respiratory protection should be worn when there is a potential to
exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit
requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory
irritation or discomfort have been experienced, or where indicated by your risk assessment process.
For most conditions no respiratory protection should be needed; however, if discomfort is
experienced, use an approved air-purifying respirator. Use the following CE approved
air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash
hands before smoking or eating.

Engineering Controls

Ventilation: Use local exhaust ventilation, or other engineering controls to maintain airborne
levels below exposure limit requirements or guidelines. If there are no applicable exposure limit
requirements or guidelines, general ventilation should be sufficient for most operations. Local
exhaust ventilation may be necessary for some operations.

Section 9 - Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance

Form liquid, clear
Colour colourless

Safety data

pH No data available
Melting point/freezing point < -70 °C
Initial boiling point ~ 150 °C @ 760 mm Hg
Flash point 46°C (closed cup)
Evaporation rate 0.21 (butyl acetate=1)
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor pressure</td>
<td>2.5 mm Hg @ 25 °C</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>4.6 @ 15.5 - 32.2 °C</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.88 @ 20 °C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>complete</td>
</tr>
<tr>
<td>Octanol/water partition coefficient</td>
<td>Log Pow=0.62</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 9.2. Other information

- **Explosive properties**: Not explosive
- **Lower explosion limit**: 1.3% (V)
- **Upper explosion limit**: 16.9% (V)
- **Oxidising properties**: Not considered an oxidizing agent.

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### Section 10 - Stability and Reactivity

#### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

#### 10.2 Chemical stability

Stable under recommended storage conditions. See Storage, Section 7.

#### 10.3 Possibility of hazardous reactions

Polymerization will not occur.

#### 10.4 Conditions to Avoid:

- Do not distill to dryness. Product can oxidize at elevated temperatures.
- Generation of gas during decomposition can cause pressure in closed systems.

#### 10.5 Incompatible Materials:

Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

#### 10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids.

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### Section 11 - Toxicological Information

#### 11.1 Information on toxicological effects

**Acute Toxicity**

**Ingestion**

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Observations in animals include: Anesthetic or narcotic effects.

LD50, rat > 2,000 mg/kg

**Aspiration hazard**

Based on physical properties, not likely to be an aspiration hazard.
Dermal
Prolonged skin contact is unlikely to result in absorption of harmful amounts. Observations in animals include: Anesthetic or narcotic effects.
LD50, rabbit > 2,000 mg/kg

Inhalation
Brief exposure (minutes) is not likely to cause adverse effects. Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Observations in animals include: Anesthetic or narcotic effects.
No deaths occurred at this concentration. LC50, 4 h, Vapor, rat 8.34 mg/l

Eye damage/eye irritation
May cause moderate eye irritation. May cause moderate corneal injury. Vapor may cause corneal injury.

Skin corrosion/irritation
Prolonged contact may cause slight skin irritation with local redness. Repeated exposure may cause irritation, even a burn. May cause more severe response if skin is abraded (scratched or cut). May cause drying and flaking of the skin.

Sensitization
Skin
Did not demonstrate the potential for contact allergy in mice.

Respiratory
No relevant data found.

Repeated Dose Toxicity
In animals, effects have been reported on the following organs: Eye. May cause central nervous system effects.

Chronic Toxicity and Carcinogenicity
No relevant data found.

Developmental Toxicity
Did not cause birth defects in laboratory animals. Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Reproductive Toxicity
In animal studies, a similar material has been shown not to interfere with reproduction.

Genetic Toxicology
In vitro genetic toxicity studies were negative.

Section 12 - Ecological Information

12.1 Toxicity
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
Fish Acute & Prolonged Toxicity
LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 h: > 100 mg/l

Aquatic Invertebrate Acute Toxicity
LC50, Daphnia magna (Water flea), static test, 48 h, mortality: > 100 mg/l

Aquatic Plant Toxicity
ErC50, Pseudokirchneriella subcapitata (green algae), static test, biomass growth inhibition, 96 h: 1,466 mg/l

Toxicity to Micro-organisms
EC50; Bacteria, static test, 16 h: 3,800 mg/l

12.2 Persistence and Degradability
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

12.3 Bioaccumulative potential
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): 0.621 Calculated

12.4 Mobility in soil
Mobility in soil: Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient, soil organic carbon/water (Koc): 1 - 1.9 Estimated.


12.5 Results of PBT and vPvB assessment
This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects
This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Section 13 - Disposal Considerations

13.1 Waste treatment methods
This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water.

Section 14 - Transport Information

ADR/RID
14.1 UN number
UN1993
14.2 UN proper shipping name
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
Technical Name: 1-Propoxy-2-propanol

14.3 Transport hazard class(es)
Hazard Class: 3

14.4 Packing Group
PG III

14.5 Environmental hazards
Not considered environmentally hazardous based on available data

14.6 Special precautions for user
Special Provisions: Special provision 640E
Hazard identification No:30
ADNR / ADN

IMDG

14.1 UN number
UN1993

14.2 UN proper shipping name
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
Technical Name: 1-Propoxy-2-propanol

14.3 Transport hazard class(es)
Hazard Class: 3

14.4 Packing Group
PG III

14.5 Environmental hazards
Not considered environmentally hazardous based on available data

14.6 Special precautions for user
no data available

IMDG

14.1 UN number
UN1993

14.2 UN proper shipping name
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
Technical Name: 1-Propoxy-2-propanol

14.3 Transport hazard class(es)
Hazard Class: 3

14.4 Packing Group
PG III

14.5 Environmental hazards
Not considered environmentally hazardous based on available data
14.6 Special precautions for user
EMS Number: F-E,S-E

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Product Name: PROPYLENE GLYCOL MONOALKYL ETHER
Ship Type: 3
Pollution Category: Z

ICAO/IATA

14.1 UN number
UN1993

14.2 UN proper shipping name
Proper Shipping Name: FLAMMABLE LIQUID, N.O.S.
Technical Name: 1-Propoxy-2-propanol

14.3 Transport hazard class(es)
Hazard Class: 3

14.4 Packing Group
PG III

14.5 Environmental hazards
Not considered environmentally hazardous based on available data

14.6 Special precautions for user
no data available

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
European Inventory of Existing Commercial Chemical Substances (EINECS)
The components of this product are on the EINECS inventory or are exempt from inventory requirements.

15.2 Chemical Safety Assessment
A Chemical Safety Assessment has been carried out for this substance.

Section 16 - Other Information

Uses and Restrictions: Industrial solvent for cleaner and coating formulations.
Use only in industrial processes

Disclaimer: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.