Section 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifiers

Product Name: Propylene Glycol Industrial Grade

Chemical Name: Propylene glycol
CAS-No. 57-55-6
EC-No. 200-338-0
REACH Registration Number
  01-2119456809-23-0003
  01-2119456809-23-0005
  01-2119456809-23-0008
  01-2119456809-23-0009

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses

1.3 Details of the supplier of the safety data sheet

(TM) Trademark
Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification - REGULATION (EC) No 1272/2008
This product is not classified as dangerous according to EC criteria.

Classification according to EU Directives 67/548/EEC or 1999/45/EC
This product is not classified as dangerous according to EC criteria.

2.2 Label elements

Labelling - REGULATION (EC) No 1272/2008
This product is not classified as dangerous according to EC criteria.

2.3 Other Hazards
No information available.

Section 3. Composition/information on ingredients

3.1 Substance
This product is a substance.

<table>
<thead>
<tr>
<th>CAS-No. / EC-No. / REACH No.</th>
<th>Amount</th>
<th>Component</th>
<th>Classification:</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No. 57-55-6</td>
<td>&gt; 99.5%</td>
<td>Propylene glycol</td>
<td>REGULATION (EC) No 1272/2008</td>
<td>211-9456-809-23</td>
</tr>
<tr>
<td>EC-No. 200-338-0</td>
<td></td>
<td></td>
<td>Not classified</td>
<td>23</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS-No. / EC-No. / Amount</th>
<th>Component</th>
<th>Classification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No. 57-55-6 &gt; 99.5%</td>
<td>Propylene glycol</td>
<td>67/548/EEC</td>
</tr>
<tr>
<td>EC-No. 200-338-0</td>
<td></td>
<td>Not classified</td>
</tr>
</tbody>
</table>

# Substance(s) with an Occupational Exposure Limit. For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4. First-aid measures

4.1 Description of first aid measures

General advice: 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: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.
Ingestion: No emergency medical treatment necessary. Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

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), no additional symptoms and effects are anticipated.

4.3 Indication of immediate medical attention and special treatment needed
No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 5. Fire Fighting Measures

5.1 Extinguishing Media
Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. 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.
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: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard.

6.2 Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
Section 7. Handling and Storage

7.1 Precautions for safe handling

Handling

General Handling: Product handled hot may require additional ventilation or local exhaust. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: 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

Store away from direct sunlight or ultraviolet light. Keep container tightly closed when not in use. Store in a dry place. Protect from atmospheric moisture. Store in the following material(s): Stainless steel. Aluminum. Plasite 3066 lined container. 316 stainless steel. Opaque HDPE plastic container.

Shelf life: Use within

| Maximum storage temperature | 12.0 Months | 40 °C |

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

<table>
<thead>
<tr>
<th>Component</th>
<th>List</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propylene glycol</td>
<td>Ireland GELV</td>
<td>TWA Particulate.</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>UK WEL</td>
<td>TWA Particulate.</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>UK WEL</td>
<td>TWA Total vapour and particulates</td>
<td>474 mg/m³ 150 ppm</td>
</tr>
<tr>
<td></td>
<td>WEEL</td>
<td>TWA Aerosol.</td>
<td>10 mg/m³</td>
</tr>
</tbody>
</table>

Derived No Effect Level (DNEL)

Workers

Potential Health Effects | Possible route(s) of exposure: | Value
---|---|---
Acute - systemic effects | Skin contact | Not available
Acute - systemic effects | Inhalation | Not available
Acute - local effects | Skin contact | Not available
Acute - local effects
Long-term - systemic effects
Long-term - local effects

Consumers
Potential Health Effects

Predicted No Effect Concentration (PNEC)

8.2 Exposure controls

Personal Protection

Engineering Controls

Section 9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties
### Appearance

**Physical State**
- Liquid.

**Color**
- Colorless

**Odor**
- Odorless

**Odor Threshold**
- No test data available

**pH**
- Not applicable

**Melting Point**
- $-20 ^\circ C$ EU Method A1 (Melting / Freezing Temperature)

**Freezing Point**
- $-20 ^\circ C$ EC Method A1

**Boiling Point (760 mm Hg)**
- 184 °C Literature

**Flash Point - Closed Cup**
- 104 °C EC Method A9 (PMCC)

**Flash Point - Open Cup**
- No test data available

**Evaporation Rate (Butyl Acetate = 1)**
- 0.01 Estimated

**Acetate = 1)**
- Not applicable to liquids

**Flammability (solid, gas)**
- Lower: 2.6 % (V) Estimated
- Upper: 12.5 % (V) Estimated

**Vapor Pressure**
- 20 Pa @ 25 °C EC Method A4

**Vapor Density (air = 1)**
- 2.62 Literature

**Specific Gravity (H2O = 1)**
- 1.03 20 °C/20 °C EU Method A3 (Relative Density)

**Solubility in water (by weight)**
- 100 % @ 20 °C EU Method A6 (Water Solubility)

**Partition coefficient, n-octanol/water (log Pow)**
- 1.07 Measured

**Autoignition Temperature**
- 100.01 kPa > 400 °C EC Method A15

**Decomposition Temperature**
- No test data available

**Dynamic Viscosity**
- 43.4 mPa.s @ 25 °C Literature

**Kinematic Viscosity**
- No test data available

**Explosive properties**
- Not explosive

**Oxidizing properties**
- No

### 9.2 Other Information

**Liquid Density**
- 1.03 g/cm³ @ 20 °C Literature

**Solubility in Solvents**
- No test data available

**Pour point**
- $-57 ^\circ C$ Literature

**Henry’s Law Constant (H)**
- 1.2E-08 atm·m³/mole Measured

---

### 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. Hygroscopic.

#### 10.3 Possibility of hazardous reactions

Polymerization will not occur.

#### 10.4 Conditions to Avoid:

Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

#### 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, Alcohols, Ethers, Organic acids.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity

**Ingestion**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

LD_{50}, Rat > 20,000 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.

LD_{50}, Rabbit > 2,000 mg/kg

**Inhalation**

At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat).

No deaths occurred at this concentration. LC_{50}, 2 h, Aerosol, Rabbit 317.042 mg/l

**Eye damage/eye irritation**

May cause slight temporary eye irritation. Corneal injury is unlikely. Mist may cause eye irritation.

**Skin corrosion/irritation**

Prolonged contact is essentially nonirritating to skin. Repeated contact may cause flaking and softening of skin.

**Sensitization**

**Skin**

Did not cause allergic skin reactions when tested in humans.

**Respiratory**

No relevant data found

**Repeated Dose Toxicity**

In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

**Chronic Toxicity and Carcinogenicity**

Did not cause cancer in laboratory animals.

**Developmental Toxicity**

Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive Toxicity**

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

**Genetic Toxicology**

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Section 12. Ecological Information

12.1 Toxicity

Material is not classified as dangerous to aquatic organisms (LC_{50}/EC_{50}/IC_{50}/LL_{50}/EL_{50} greater than 100 mg/L in most sensitive species).

**Fish Acute & Prolonged Toxicity**

LC_{50}, rainbow trout (Oncorhynchus mykiss), static, 96 h: 40,613 mg/l

**Aquatic Invertebrate Acute Toxicity**

LC_{50}, water flea Ceriodaphnia dubia, static, 48 h: 18,340 mg/l

LC_{50}, saltwater mysid Mysidopsis bahia, static, 96 h: 18,800 mg/l
Aquatic Plant Toxicity
ErC50, green alga Pseudokirchneriella subcapitata (formerly known as Selenastrum capricornutum), Growth rate inhibition, 96 h: 19,000 mg/l
ErC50, diatom Skeletonema costatum, static, Growth rate inhibition, 96 h: 19,100 mg/l

Toxicity to Micro-organisms
NOEC, Method not available.; Pseudomonas putida, 18 h: > 20,000 mg/l

Aquatic Invertebrates Chronic Toxicity Value
Ceriodaphnia (water flea), static renewal, 7 d, reproduction, NOEC: 13020 mg/l

12.2 Persistence and Degradaability
Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

OECD Biodegradation Tests:

<table>
<thead>
<tr>
<th>Biodegradation</th>
<th>Exposure Time</th>
<th>Method</th>
<th>10 Day Window</th>
</tr>
</thead>
<tbody>
<tr>
<td>81 %</td>
<td>28 d</td>
<td>OECD 301F Test</td>
<td>pass</td>
</tr>
<tr>
<td>96 %</td>
<td>64 d</td>
<td>OECD 306 Test</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

12.3 Bioaccumulative potential
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient, n-octanol/water (Log Pow): -1.07 Measured
Bioconcentration Factor (BCF): 0.09; Estimated.

12.4 Mobility in soil
Mobility in soil: Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process. Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient, soil organic carbon/water (Koc): < 1 Estimated.
Henry's Law Constant (H): 1.2E-08 atm*m^3/mole Measured

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) 2037/2000 on substances that deplete the ozone layer.

Section 13. Disposal Considerations

13.1 Waste treatment methods
Any disposal practice must be in compliance with all local and national laws and regulations. Do not dump into any sewers, on the ground, or into any body of water.

Section 14. Transport Information

ROAD & RAIL
NOT REGULATED

OCEAN
NOT REGULATED

AIR
NOT REGULATED
Section 15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

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

Hazard statement in the composition section

Product Literature
Additional information on this and other products may be obtained by visiting our web page.

Revision
Identification Number: 40808 / 3005 / Issue Date 2011/02/18 / Version: 7.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Dow Chemical Company Ltd urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.