



Safety Data Sheet

Dow Chemical Company Ltd

Product Name: Propylene Glycol Industrial Grade

Revision Date: 2011/02/18

Print Date: 20 Feb 2011

Dow Chemical Company Ltd encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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

Manufacture of substance, industrial Distribution of substance, industrial. Formulation & (re)packing of substances and mixtures, industrial Uses in Coatings, industrial Use in Cleaning Agents, industrial Use as binders and release agents: Industrial (SU3) Functional Fluids, industrial Use in laboratories, industrial Polymer production: Industrial (SU10) Rubber production and processing, industrial. Water treatment chemicals For industrial use. Mining Chemicals For industrial use. Use in laboratories, professional Use as binders and release agents, professional Professional use in cleaning agents. Water treatment chemicals professional use Uses in Coatings, professional Functional Fluids, professional De-icing and anti-icing applications, professional Professional use in agrochemicals. Uses in Coatings, consumer Use in Cleaning Agents, consumer Functional Fluids, consumer Other Consumer Uses Consumer use in agrochemicals. De-icing and anti-icing applications, consumer

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

Dow Chemical Company Ltd
Diamond House, Lotus Park
Kingsbury Crescent
TW18 3AG Staines, Middlesex
United Kingdom

Customer Information Number:

0203 139 4000

®(TM)*Trademark

SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER**24-Hour Emergency Contact:**

0031 115 694 982

Local Emergency Contact:

00 31 115 69 4982

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.

CAS-No. / EC-No. / REACH No. Index	Amount	Component	Classification: REGULATION (EC) No 1272/2008
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CAS-No. 57-55-6 EC-No. 200-338-0	01- 2119456809- 23	> 99.5 % Propylene glycol#	Not classified
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CAS-No. / EC-No. / Index	Amount	Component	Classification: 67/548/EEC
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CAS-No. 57-55-6 EC-No. 200-338-0	> 99.5 %	Propylene glycol#	Not classified.
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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.

6.3 Methods and materials for containment and cleaning up: Contain spilled material if possible. Small spills: Any absorbent material. Collect in suitable and properly labeled open containers. Wash the spill site with large quantities of water. Large spills: Dike area to contain spill. 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: 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. Plaste 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

Component	List	Type	Value
Propylene glycol	Ireland OELV	TWA	10 mg/m ³
	UK WEL	Particulate. TWA	10 mg/m ³
	UK WEL	Particulate. TWA Total vapour and particulates.	474 mg/m ³ 150 ppm
	WEEL	TWA Aerosol.	10 mg/m ³

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	Inhalation	Not available
Long-term - systemic effects	Skin Contact	Not available
Long-term - systemic effects	Inhalation	168 mg/m3
Long-term - local effects	Skin Contact	Not available
Long-term - local effects	Inhalation	10 mg/m3

Consumers

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	Inhalation	Not available
Long-term - systemic effects	Skin Contact	Not available
Long-term - systemic effects	Inhalation	50 mg/m3
Long-term - local effects	Skin contact	Not available
Long-term - local effects	Inhalation	10 mg/m3

Predicted No Effect Concentration (PNEC)

Compartment	Value	Remarks
Fresh water	260 mg/l	
Marine water	26 mg/l	
Intermittent releases	183 mg/l	
STP	20000 mg/l	
Fresh water sediment	572 mg/kg d.w.	
Marine sediment	57.2 mg/kg d.w.	
Soil	50 mg/kg d.w.	

8.2 Exposure controls

Personal Protection

Eye/Face Protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

Skin Protection: No precautions other than clean body-covering clothing should be needed.

Hand protection: Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

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. In misty atmospheres, use an approved particulate 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	
Physical State	Liquid.
Color	Colorless
Odor	Odorless
Odor Threshold	No test data available
pH	Not applicable
Melting Point	< -20 °C <i>EU Method A.1 (Melting / Freezing Temperature)</i>
Freezing Point	< -20 °C <i>EC Method A1</i>
Boiling Point (760 mmHg)	184 °C <i>Literature</i> .
Flash Point - Closed Cup	104 °C <i>EC Method A9 (CC) (PMCC)</i>
Flash Point - Open Cup	No test data available
Evaporation Rate (Butyl Acetate = 1)	0.01 <i>Estimated</i> .
Flammability (solid, gas)	Not applicable to liquids
Flammable Limits In Air	Lower: 2.6 %(V) <i>Estimated</i> . Upper: 12.5 %(V) <i>Estimated</i> .
Vapor Pressure	20 Pa @ 25 °C <i>EC Method A4</i>
Vapor Density (air = 1)	2.62 <i>Literature</i>
Specific Gravity (H₂O = 1)	1.03 20 °C/20 °C <i>EU Method A.3 (Relative Density)</i>
Solubility in water (by weight)	100 % @ 20 °C <i>EU Method A.6 (Water Solubility)</i>
Partition coefficient, n-octanol/water (log Pow)	-1.07 <i>Measured</i>
Autoignition Temperature	100.01 kPa > 400 °C <i>EC Method A15</i>
Decomposition Temperature	No test data available
Dynamic Viscosity	43.4 mPa.s @ 25 °C <i>Literature</i>
Kinematic Viscosity	No test data available
Explosive properties	Not explosive
Oxidizing properties	No

9.2 Other information

Liquid Density	1.03 g/cm ³ @ 20 °C <i>Literature</i>
Solubility in Solvents	No test data available
Pour point	< -57 °C <i>Literature</i>
Henry's Law Constant (H)	1.2E-08 atm*m ³ /mole <i>Measured</i>

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.

LD50, 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.

LD50, 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. LC50, 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 (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Fish Acute & Prolonged Toxicity

LC50, rainbow trout (*Oncorhynchus mykiss*), static, 96 h: 40,613 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, water flea *Ceriodaphnia dubia*, static, 48 h: 18,340 mg/l

LC50, 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 Degradability

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:

Biodegradation	Exposure Time	Method	10 Day Window
81 %	28 d	OECD 301F Test	pass
96 %	64 d	OECD 306 Test	Not applicable

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*m3/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

INLAND WATERWAYS
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.

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