

Material Safety Data Sheet

Propylene Glycol

1. Product and company identification

Product name	: Propylene Glycol
Synonym	: 1,2-Propanediol; 1,2-dihydroxypropane; methylethylene glycol.
Trade name	: Propylene Glycol Industrial
Part number	: 506004, 506020, 506025
Supplier/Manufacturer	: LynCar Inc. 100 Westcreek Blvd, Unit 2 Brampton, ONT L6T 5V7 Tel: (800) 263-7011 Fax: (800) 459-6227
MSDS authored by	: KMK Regulatory Services Inc.
In case of emergency	: CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3877

2. Hazards identification

Emergency overview

Physical state	: Liquid. [Sirupy.]
Color	: Colorless.
Odor	: Odorless.
Hazard statements	: NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
Routes of entry	: Dermal contact. Eye contact. Ingestion.
Potential acute health effects	
Inhalation	: May cause mild irritation to the nose and throat.
Ingestion	: Not a likely route of exposure. In high doses, may cause discomfort, irritation of the gastrointestinal tract and CNS
Skin	: Prolonged contact may cause dermatitis
Eyes	: May cause mild irritation.

Potential chronic health effects

Chronic effects	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Target organs	: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

2. Hazards identification

Medical conditions aggravated by over-exposure : None known.

See toxicological information (section 11)

3. Composition/information on ingredients

Name	CAS number	%
1,2-Propanediol	57-55-6	60 - 100

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention if symptoms occur.
- Inhalation** : Move exposed person to fresh air. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
- Notes to physician** : No specific treatment. Treat symptomatically.

5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
 - Not suitable** : None known.
- Hazardous decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- Special protective equipment for fire-fighters** : No special protection is required.

6. Accidental release measures

- Personal precautions** : Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods for cleaning up**
- Small spill** : Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
 - Large spill** : Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
- Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			Notations
Ingredient	List name	ppm	mg/m ³	Other	ppm	mg/m ³	Other	ppm	mg/m ³	Other	
1,2-Propanediol	ON 8/2008	-	10	-	-	-	-	-	-	-	[a]
		50	155	-	-	-	-	-	-	-	[b]
	US AIHA 1/2009	-	10	-	-	-	-	-	-	-	

Form: [a]Aerosol. [b]Vapor and aerosol

Consult local authorities for acceptable exposure limits.

- Recommended monitoring procedures** : Personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Engineering measures** : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
- Respiratory** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Not required under normal conditions of use. Recommended:
- Hands** : >8 hours (breakthrough time): Disposable vinyl gloves. Not required under normal conditions of use.
- Eyes** : Safety eyewear should be used when there is a likelihood of exposure. Recommended: Safety glasses. Not required under normal conditions of use.
- Skin** : Recommended: Lab coat.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

9 . Physical and chemical properties

- Physical state** : Liquid. [Sirupy.]
- Flash point** : Closed cup: 98.85°C (209.9°F) [Tagliabue.]
- Auto-ignition temperature** : 371.11°C (700°F)
- Flammable limits** : Lower: 2.6%
Upper: 12.5%
- Color** : Colorless.
- Odor** : Odorless.
- Molecular weight** : 76.11 g/mole
- Molecular formula** : C₃H₈O₂
- Boiling/condensation point** : 187.35°C (369.2°F)
- Melting/freezing point** : -60°C (-76°F)
- Specific gravity** : 1.036 g/cm³
- Relative density** : 1.04

9. Physical and chemical properties

Vapor pressure	: 0.017 kPa (0.129 mm Hg)
Vapor density	: 2.62 [Air = 1]
Volatility	: 100% (v/v), 100% (w/w)
Evaporation rate	: 0.01 (butyl acetate = 1)
VOC	: 100 % (w/w)
Solubility	: Suspends in water.

10. Stability and reactivity

Chemical stability	: The product is stable.
Conditions to avoid	: No specific data.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials and acids.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
1,2-Propanediol	LD50 Dermal	Rabbit	20800 mg/kg	-
	LD50 Oral	Rat	20 g/kg	-

Chronic toxicity : No specific data.

12. Ecological information

Environmental effects : Not established

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
1,2-Propanediol	Acute LC50 >1000 mg/L Marine water	Crustaceans - Chaetogammarus marinus - Young - 5 mm	48 hours
	Acute LC50 1020000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <=24 hours	48 hours
	Acute LC50 710000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours
	Chronic NOEC 660000 ug/L Fresh water	Daphnia - Ceriodaphnia dubia - <=24 hours	48 hours
	Chronic NOEC 600000 ug/L Fresh water	Fish - Pimephales promelas - <=7 days	96 hours

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty containers or liners may retain some product residues. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

TDG/IMDG/IATA : Not regulated.

15 . Regulatory information

WHMIS (Canada) : Not controlled under WHMIS (Canada).
Canadian lists : **CEPA Toxic substances**: This material is not listed.
Canadian ARET: This material is not listed.
Canadian NPRI: This material is not listed.
Alberta Designated Substances: This material is not listed.
Ontario Designated Substances: This material is not listed.
Quebec Designated Substances: This material is not listed.

Canada inventory : This material is listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

International lists : **Australia inventory (AICS)**: This material is listed or exempted.
China inventory (IECSC): This material is listed or exempted.
Japan inventory: This material is listed or exempted.
Korea inventory: This material is listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): This material is listed or exempted.
Philippines inventory (PICCS): This material is listed or exempted.

16 . Other information

References : ANSI Z400.1, MSDS Standard, 2004. - Canada Gazette Part II, Vol. 122, No. 2. Registration SOR/88-64, 31 December 1987. Hazardous Products Act "Ingredient Disclosure List" - Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2005.

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Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Dr. Luc Séguin, PhD chemist, 25 years as a professional in regulatory compliance



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