

SAFETY DATA SHEET

Propylene Glycol

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

SDS Name:	Propylene Glycol
Product ID:	PG4, PG10
Synonyms:	1, 2,-propanediol, 1,2-dihydroxypropane
Chemical Formula:	CH ₃ CHOHCH ₂ OH
Distributed by:	Solvat 7226- 107 th Avenue South East Calgary, Alberta Canada T2C5N6
For information, call:	(403) 456-2245
Emergency number:	(613) 996-6666 (CANUTEC) 1-800 463-5060 OR (418) 656-8090 (Control Poison Center)

2. HAZARDS IDENTIFICATION

OSHA Hazard Communication Standard

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

Potential Health Effects:

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

Skin Contact: Prolonged contact is essentially not irritating to skin. Repeated contact may cause flaking and softening of skin.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

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

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

Aspiration Hazard: Based on physical properties, not likely to be an aspiration hazard.

Effects of Repeated Exposure: In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

Label Elements:

Signal Word:

Warning

Hazard Statements

May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure



3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	Amount	CAS #
Propylene Glycol	> 99.5%	57-55-6

Toxicological Data on Ingredients: Propylene glycol: ORAL (LD50): Acute: 20000 mg/kg (Rat). 22,000 mg/kg (Mouse). DERMAL (LD50): Acute: 208000 mg/kg (Rabbit).

4. FIRST AID MEASURES

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.
Skin Contact:	Wash skin with soap and plenty of water.
Inhalation:	Move person to fresh air; if effects occur, consult a physician.
Ingestion:	No emergency medical treatment necessary. Rinse mouth with water.

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.

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.

5. FIRE FIGHTING MEASURES

Suitable 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.

Extinguishing Media to Avoid: Do not use direct water stream. May spread fire.

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.

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 firefighting clothing (includes firefighting helmet, coat, trousers, boots and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Spilled material may cause a slipping hazard. 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.

Environmental precautions:

Prevent from entering into soil, ditches, sewers, waterways and/ or ground water. See Section 12, Ecological Information.

Method 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.

7. HANDLING AND STORAGE

Handling:**General Handling:**

Spills of these organic materials on hot fibrous insulations may lead to lowering of the auto ignition temperature possibly resulting in spontaneous combustion. See Section 8, Exposure Controls and Personal Protection.

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. Plasteel 3066 lined container. 316 stainless steel. Opaque HDPE plastic container.

Shelf life:

Use within 12 Months

Maximum Storage Temperature:

40°C

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Exposure Limits

Component	List	Type	Value
Propylene Glycol	WEEL	TWA Aerosol	10 mg/m ³

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical State:	Liquid
Color:	Colorless
Odor:	Odorless
Odor Threshold:	No test data available
pH:	Not applicable
Melting point/ Freezing Point:	-60 °C (-76 °F)
Boiling Point:	187°C (369°F)
Flash Point-Closed Cup:	103°C (217°F)
Flash Point-Open Cup:	No test data available
Evaporation Rate (Butyl Acetate=1):	0.01 Estimated
Flammability (solid, gas):	Not applicable to liquids
Flammable Limits In Air:	Lower: 2.6% (V) Estimated Upper: 12.5% (V) Estimated
Vapor Pressure	20 Pa @25°C EC Method A4
Vapor Density (air=1):	2.63
Specific Gravity (H₂O =1):	1.03 20°C / 20°C EU Method A.3 (Relative Density)
Solubility in water (by weight):	100% @ 20°C EU Method A.6 (Water Solubility)
Partition coefficient, n-octanol/water (log Pow):	-1.07 Measured
Autoignition Temperature:	100.01 kPa.400oC (>752oF) 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
Liquid Density:	1.03 g/cm ³ @ 20°C Literature
Solubility in Solvents:	No test data available
Pour Point:	<-57°C (<-71°F) Literature
Henry's Law Constant (H):	1.2E-08 atm*m ³ /mole Measured

10. STABILITY AND REACTIVITY

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Stable under recommended storage conditions. See Storage, Section 7, Hygroscopic.
Possibility of hazardous reactions:	Polymerization will not occur.
Conditions to Avoid:	Exposure to elevated temperatures can be cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

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

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	
Ingestion:	LD50, rat >20,000 mg/kg
Dermal	LD50, rabbit >2,000 mg/kg
Inhalation	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 non-irritating 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.

12. ECOLOGICAL INFORMATION

Toxicity	Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50>100 mg/L in the most sensitive species tested).
Fish Acute & Prolonged Toxicity	LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 h: 40,613 mg/l
Aquatic Invertebrate Acute Toxicity	LC50, Ceriodaphnia Dubia (water flea) static test, 48h: 18,340 mg/l
Aquatic Plant Toxicity	Er50, Pseudokirchneriella subcapitata (green algae), Growth rate inhibition, 96h: 19,000 mg/l
Toxicity to Micro-organisms	NOEC, no data available; Pseudomonas putida, 18h: >20,000 mg/l
Aquatic Invertebrates Chronic Toxicity Value	Ceriodaphnia Dubia (water flea), semi-static test, 7 d, number of offspring, NOEC: 13020 mg/l

Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradable. 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

Indirect Photo degradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
1.28E-11 cm ³ /s	10 h	Estimated

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
69.00%	70.00%	86.00%	

Chemical Oxygen Demand: 1.53 mg/mg

Theoretical Oxygen Demand: 1.68 mg/mg

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.

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 so is very high (Koc between 0 and 50).

Partition coefficient, soil organic carbon/water (Koc): < Estimated.

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

13. DISPOSAL CONSIDERATIONS

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

14. TRANSPORT INFORMATION

DOT Non -Bulk Not Regulated

DOT Bulk Not Regulated

IMDG Not Regulated

ICAO/IATA Not Regulated



This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to- Know Act of 1986) Sections 311 and 312

- Immediate (Acute) Health Hazard** No
- Delayed (Chronic) Health Hazard** No
- Fire Hazard** No
- Reactive Hazard** No
- Sudden Release of Pressure Hazard** No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/ or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and / or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

Component	CAS #	Amount
Propylene Glycol	57-55-6	>=99.5%

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) Section 103

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US. Toxic Substance Control Act

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

CEPA – Domestic Substances List (DSL)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

16. OTHER INFORMATION

Hazard Rating System

NFPA

Health

0

Fire

1

Reactivity

0



The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Alberta Veterinary Laboratory Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Alberta Veterinary Laboratory Ltd. has been advised of the possibility of such damages.

This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all of the information required by the CPR

Revision Date: 2020-03-16