

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Name: Propylene Glycol

Product Codes(s): Propylene Glycol

Synonyms: 1,2-Dihydroxypropane; Methylene glycol; Monopropylene glycol; 1,2-Propylene glycol; 1,2-Propanediol; 2-Hydroxypropanol.

REACH Registration Number: No data available

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

General Use: Material for use in industrial and commercial formulation applications

Uses advised against: None known

1.3 Details of the supplier and of the safety data sheet

Manufacturer/Distributor

Allan Chemical Corporation

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Product definition: Substance

Classification (Regulation (EC) No 1272/2008)

None allocated

2.2 Label Elements

Labeling (Regulation (EC) No 1272/2008)

Hazard Symbol(s): None allocated

Signal Word: None allocated

Hazard Statement(s): None allocated

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

% by Weight	Ingredient	CAS Number	EC Number	Index Number	EC Classification
>99	Propylene Glycol	57-55-6	200-338-0	-----	-----

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

3.2 Mixtures

Chemical characterization (preparation)

Not applicable

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product mist or vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight fitting clothing such as a collar, tie, belt or waistband. If symptoms persist, seek medical attention.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after the first 2 minutes and continue rinsing. If irritation persists seek medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing and continue rinsing for at least 15 minutes. Wash contaminated clothing and shoes thoroughly before reuse. If irritation occurs or persists, seek medical attention.

Ingestion: Rinse mouth thoroughly with water if the victim is conscious. Remove dentures, if present. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If victim feels unwell, obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: May cause mild, transient eye irritation. Mist may cause eye irritation.

Skin: Not expected to cause skin irritation.

Inhalation: Not expected to cause irritation of the respiratory tract.

Ingestion: Very low toxicity if swallowed. May cause digestive upset when ingested in large quantities with nausea, vomiting and diarrhea.

Chronic: None known

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel: Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishable media

Suitable methods of extinction: Water fog, water spray, carbon dioxide, dry chemical and alcohol-resistant foam.

Unsuitable methods of extinction: Water jets or direct water streams may spread fire.

5.2 Special hazards arising from the substance or mixture

Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

Explosion hazards: Not considered to be explosion hazard.

5.3 Advice for firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. If possible, water contaminated by this material should be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear all appropriate protective equipment designated in Section 8. Remove all sources of ignition. Ventilate the area.

6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover with a large quantity of inert absorbent. Do not use combustible material such as saw dust. Shovel or sweep up product and place into an approved container for proper disposal. Observe possible material restrictions (Sections 7.2 and 10.5). Dispose of waste via a licensed waste disposal contractor.

6.4 Reference to other sections

See Section 13 for additional waste treatment information.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8. Do not get in eyes or on skin or clothing. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing and shoes before reuse.

Advice on protection against fire and explosion

Material does not present a fire or explosion hazard.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10.5), food and drink. Store away from direct sunlight or ultraviolet light. Transfer only to approved containers having correct labeling. Keep container tightly closed to prevent moisture absorption. Protect containers against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Containers may be hazardous when empty as they contain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

CAS Number	Ingredient	OSHA PEL	ACGIH TLV	NIOSH
57-55-6	Propylene Glycol	10 mg/m ³ TWA (aerosol only); 50 ppm; 155 mg/m ³ TWA (aerosol & vapor)	-----	-----

8.2 Exposure controls

Engineering Measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1 for additional data.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

Eye/face protection: Wear protective goggles or safety glasses with non-perforated side shields and a face shield. Refer to 29 CFR 1910.133, ANSI Z87.4 or Standard EN 166.

Eye/face protection: Wear protective goggles or safety glasses with non-perforated side shields and a face shield. Refer to 29 CFR 1910.133, ANSI Z87.4 or Standard EN 166.

Hand Protection: Chemical protective gloves should not be needed when handling this material. If needed, wear gloves recommended by glove supplier. Gloves should be impermeable to chemicals and oil. Breakthrough time of gloves must be greater than the intended use period.

Other protective equipment: Protective clothing. Protective boots, if the situation requires.

Respiratory Protection: None required with normal use. Always use an approved respirator when vapor/aerosols are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Clear, colorless liquid
Odor	Odorless
Odor Threshold	No data available
Molecular Weight	76.09
Chemical Formula	C ₃ H ₈ O ₂
pH	~7
Freezing/Melting Point, Range	-60 °C (-76 °F)
Initial Boiling Point	188 °C (370 °F)
Evaporation Rate	<1 (n-BuOAc = 1)
Flammability (solid, gas)	Non-flammable
Flash Point	99 °C (210 °F) Open cup
Autoignition Temperature	371 °C (700 °F)
Decomposition Temperature	No data available
Lower Explosive Limit (LEL)	2.6
Upper Explosive Limit (UEL)	12.6
Vapor Pressure	0.08 mm Hg @ 20 °C
Vapor Density	2.6 (Air = 1)
Specific Gravity	1.04 @ 20 °C
Viscosity	48.6 cps @ 25 °C
Solubility in Water	100%
Partition Coefficient: n-octanol/water	-0.92
Volatiles by Volume @ 70 °F	100%

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reactivity known under conditions of normal use.

10.2 Chemical stability

This product is stable under recommended storage conditions, handling and use. Hygroscopic (may absorb moisture from the air).

10.3 Possibility of hazardous reactions

None known

Hazardous polymerization does not occur.

10.4 Conditions to avoid

Temperature extremes; contact with incompatible materials. Avoid direct sunlight or ultraviolet light.

10.5 Incompatible materials

Strong oxidizing agents, strong bases

10.6 Hazardous decomposition products

Thermal decomposition products include oxides of carbon.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity

LD50, rat: >20,000 mg/kg

Acute inhalation toxicity

LC50, rabbit: 317 mg/l - 2h, aerosol. No deaths occurred at this concentration.

Acute dermal toxicity

LD50, rabbit: 20,800 mg/kg

Skin irritation/corrosion

Prolonged skin exposure is not likely to cause significant skin irritation.

Eye irritation/corrosion

May cause mild, transient eye irritation.

Sensitization

Negative

Sensitization

Negative

Genotoxicity in vitro

Negative

Mutagenicity

Negative

Specific organ toxicity - single exposure

No data available

Specific organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further information

This material is not listed as a carcinogen by IARC, ACGIH, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this material in humans, nor is there available data that indicates that it causes adverse developmental or fertility effects in humans.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION**12.1 Toxicity**

Material is practically non-toxic to aquatic organisms on an acute basis (LD50/EC50/EL50/LL50 >100 mg/l in the most sensitive species tested).

Acute and prolonged toxicity to fish:	LC50 - Oncorhynchus mykiss (Rainbow trout), 96 h, static: 51,600 mg/l LC50 - Pimephales promelas (Fathead minnow), 96 h, static: 51,400 mg/l
Acute toxicity to aquatic invertebrates:	EC50 - Daphnia magna (Water flea), 48 h: 1,000 mg/l
Acute toxicity to aquatic invertebrates:	EC50 - Pseudokirchneriella subcapitata (Green algae), 96 h: 19,000 mg/l

12.2 Persistence and degradability

Material is readily biodegradable.

12.3 Bioaccumulation potential

Bioaccumulation potential is low.

12.4 Mobility in soil

Potential for mobility in soil is very high.

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects**Additional ecological information**

Do not allow material to run into surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods****Product**

Methods of disposal: The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste: The classification of this product may meet the criteria for a hazardous waste.

SECTION 14 - TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

NOT REGULATED FOR TRANSPORT

SECTION 15 - REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for substance or mixture****U. S. Federal Regulations**

OSHA Hazard Communication Standard: This material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

OSHA Process Safety Management Standard: Chemicals in this product are not regulated under OSHA PSM Standard 29 CFR 1910.119.

EPA Risk Management Planning Standard: Chemicals in this product are not regulated under EPA RMP Standard (RMP) 40 CFR Part 68.

EPA Federal Insecticide, Fungicide and Rodenticide Act: This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.

TSCA Status: All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory. This product is not subject to TSCA 12(b) Export Notification.

Superfund Amendments and Reauthorization Act (SARA)

SARA 313 Information: None of the chemicals in this product are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA Section 311/312 Hazard Categories: None

SARA 302/304 Extremely Hazardous Substance: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains no CERCLA reportable substances.

Clean Air Act (CAA)

This product does not contain any substances listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).
 This product does not contain any Class 1 Ozone depletors.
 This product does not contain any Class 2 Ozone depletors.

Clean Water Act (CWA)

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
 None of the chemicals in this product are listed as Priority Pollutants under the CWA.
 None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

U.S. State Regulations**California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986:**

This product contains no chemical(s) known to the State of California to cause cancer or other reproductive harm.

Other U.S. State Inventories:

Propylene Glycol (CAS #57-55-6) is not listed on any State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists.

Canada

WHMIS Hazard Symbol and Classification: None allocated

Canadian Controlled Products Regulations (CPR): 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.

Canadian Ingredient Disclosure List (IDL): Propylene glycol (CAS #57-55-6) is listed on the IDL.

Canadian National Pollutant Release Inventory (NPRI): None of the substances in this product are listed on the NPRI.

European Economic Community

Labeling (67/548/EEC to 1999/45/EC): Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

WGK, Germany (Water danger/protection): 1

Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

**"Yes" indicates that all components of this product are in compliance with the inventory requirements administered by the governing country.

**"No" indicates that one or more components of this product are not on the inventory and are not exempt from listing.

15.2 Chemical safety assessment

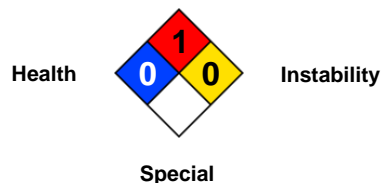
For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION**Hazardous Material Information System (HMIS)**

Health	0
Flammability	1
Physical Hazard	0
Personal Protection	C

HMIS & NFPA Hazard Rating Legend

* = Chronic Health Hazard 2 = MODERATE
 0 = INSIGNIFICANT 3 = HIGH
 1 = SLIGHT 4 = EXTREME

National Fire Protection Association (NFPA)**Flammability**

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