SAFETY DATA SHEET

Section 1 - Identification

Product Identifier

Product Name	**Propylene Glycol**
CAS No	57-55-6
Synonyms	Propylene glycol
Molecular Formula	C3 H8 O2
Molecular Weight	76.10
Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

Product Code	**TCHPROPYLENEGLYCOL**
Address	Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand
Emergency Tel.	**CHEMTREC®** **09 980 6780 or +64 9 980 6780**
Telephone / Fax Numbers	Tel: 09 980 6700 Fax: 09 980 6788
E-mail address	ANZinfo@thermofisher.com

Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

Not classified as hazardous according to criteria of EPA New Zealand

GHS Classification

Physical hazards
Based on available data, the classification criteria are not met

Health hazards
Based on available data, the classification criteria are not met

Environmental hazards
Based on available data, the classification criteria are not met

Label Elements None required

Other hazards which do not result in classification
This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
1,2-Propylene glycol	57-55-6	>95

Section 4 - First Aid Measures

Description of first aid measures

New Zealand Emergency Tel. CHEMTREC®
09 980 6780 or +64 9 980 6780

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur. If not breathing, give artificial respiration.

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Ingestion Do NOT induce vomiting. Get medical attention immediately if symptoms occur.

Self-Protection of the First Aider No special precautions required.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and effects No information available.

Notes to Physician Treat symptomatically. Symptoms may be delayed.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons
No information available.

Specific Hazards Arising from the Chemical
Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Carbon monoxide (CO), Carbon dioxide (CO_2).

Special protective equipment and precautions for fire fighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Emergency procedures
Use personal protective equipment as required. Ensure adequate ventilation.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Precautions to prevent secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations

Reference to Other Sections
Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Advice on safe handling
Ensure adequate ventilation. Wear personal protective equipment/face protection.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

Incompatible Materials
Strong oxidizing agents. Acids.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Control parameters

Exposure limits
NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor
UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.
AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]
Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

Component	New Zealand WEL	Australia	ACGIH TLV	The United Kingdom
1,2-Propylene glycol	TWA: 150 ppm TWA: 474 mg/m^3 TWA: 10 mg/m^3	TWA: 150 ppm TWA: 474 mg/m^3 TWA: 10 mg/m^3		STEL: 450 ppm 15 min STEL: 1422 mg/m^3 15 min STEL: 30 mg/m^3 15 min TWA: 150 ppm 8 hr TWA: 474 mg/m^3 8 hr TWA: 10 mg/m^3 8 hr

Biological limit values
This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Nitrile rubber, Neoprene	> 480 minutes	0.28 mm	AS/NZS 2161	As tested under EN374-3 Determination of
gloves.	> 480 minutes	0.38 mm		Resistance to Permeation by Chemicals
Viton (R)	> 480 minutes	0.3 mm		

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Repiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of repiratory protective devices

Recommended Filter type: Particle filter (or AUS/NZ equivalent)

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State	Viscous liquid Liquid	
Appearance	Clear Colourless	
Odor	Odorless	
Odor Threshold	No data available	
pH	6.5-7.5	100g/l aq. sol
Melting Point/Range	-60 °C / -76 °F	
Softening Point	No data available	
Boiling Point/Range	187 °C / 368.6 °F	
Flammability (liquid)	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	**Lower** 2.5 vol %	
	Upper 12.6 vol %	
Flash Point	99 °C / 210.2 °F	**Method -** No information available
Autoignition Temperature	400 °C / 752 °F	
Decomposition Temperature	No data available	
Viscosity	45 mPa.s at 20 °C	
Water Solubility	Completely soluble	
Solubility in other solvents	No information available	

Partition Coefficient (n-octanol/water)

Component	**log Pow**
1,2-Propylene glycol	-0.9

Vapor Pressure	0.13 mbar @ 20 °C	
Density / Specific Gravity	1.03 - 1.04	
Bulk Density	Not applicable	Liquid
Vapor Density	2.62 (Air = 1.0)	(Air = 1.0)
Particle characteristics	Not applicable (liquid)	

Other information

Molecular Formula	C3 H8 O2
Molecular Weight	76.10
Evaporation Rate	No information available

Section 10 - Stability and Reactivity

Reactivity	None known, based on information available
Stability	Hygroscopic.
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Hazardous Polymerization	No information available.
Hazardous Reactions	No information available.
Conditions to Avoid	Incompatible products, Excess heat, Exposure to moist air or water.
Incompatible Materials	Strong oxidizing agents, Acids.
Hazardous Decomposition Products	Carbon monoxide (CO). Carbon dioxide (CO_2).

Section 11 - Toxicological Information

Acute Effects

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract. May be harmful if inhaled.
Eyes	Irritating to eyes.
Skin	Irritating to skin. May produce an allergic reaction. May be harmful in contact with skin.
Ingestion	May be harmful if swallowed. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Numerical measures of toxicity

(a) acute toxicity;

Oral	Based on available data, the classification criteria are not met
Dermal	Based on available data, the classification criteria are not met
Inhalation	Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,2-Propylene glycol	LD50 = 20 g/kg (Rat)	LD50 = 20800 mg/kg (Rabbit)	

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;
Respiratory Based on available data, the classification criteria are not met
Skin Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; Based on available data, the classification criteria are not met

(h) STOT-single exposure; Based on available data, the classification criteria are not met

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

Symptoms / effects,both acute and delayed
No information available.

Section 12 - Ecological Information

Ecotoxicity

Aquatic ecotoxicity .

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
1,2-Propylene glycol	LC50: = 51600 mg/L, 96h static (Oncorhynchus mykiss) LC50: 41 - 47 mL/L, 96h static (Oncorhynchus mykiss) LC50: = 51400 mg/L, 96h static (Pimephales promelas) LC50: = 710 mg/L, 96h (Pimephales promelas)	EC50: > 1000 mg/L, 48h Static (Daphnia magna)	EC50: = 19000 mg/L, 96h (Pseudokirchneriella subcapitata)	= 710 mg/L EC50 Photobacterium phosphoreum 30 min

Terrestrial ecotoxicity There is no data for this product

Persistence and Degradability

Persistence Miscible with water, Persistence is unlikely, based on information available.

Bioaccumulative Potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
1,2-Propylene glycol	-0.9	<1 dimensionless

Mobility The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

Other adverse effects

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste treatment methods

Waste from Residues/Unused Products Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

Other Information Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations .

Section 14 - Transport Information

NZS 5433:2020 Not regulated

IATA Not regulated

IMDG/IMO Not regulated

Environmental hazards No hazards identified

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable, packaged goods

Special Precautions No special precautions required. Please refer to the applicable dangerous goods regulations for additional information.

Additional information None known

Section 15 - Regulatory Information

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

National Regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements
Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

Prohibition or notification/licensing requirements
Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Authorisation/Restrictions according to EU REACH Not applicable

International Inventories

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
1,2-Propylene glycol	57-55-6	X	X	200-338-0	-	-	KE-29267	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	PICCS	ISHL	ENCS
1,2-Propylene glycol	57-55-6	X	ACTIVE	X	-	X	X	X

Legend: X - Listed '-' - Not Listed **KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

Legend

NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
IECSC - Chinese Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
NZS 5433:2020 - Transport of Dangerous Goods on Land
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
MARPOL - International Convention for the Prevention of Pollution from
AICS - Australian Inventory of Chemical Substances
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japanese Existing and New Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
CAS - Chemical Abstracts Service
ACGIH - American Conference of Governmental Industrial Hygienists
PNEC - Predicted No Effect Concentration
OECD - Organisation for Economic Co-operation and Development
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

Ships

ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail
LD50 - Lethal Dose 50%
LC50 - Lethal Concentration 50%
EC50 - Effective Concentration 50%
ATE - Acute Toxicity Estimate
WEL - Workplace Exposure Limit
RPE - Respiratory Protective Equipment
DNEL - Derived No Effect Level
NOEC - No Observed Effect Concentration
POW - Partition coefficient Octanol:Water
BCF - Bioconcentration factor
vPvB - very Persistent, very Bioaccumulative
PBT - Persistent, Bioaccumulative, Toxic
VOC - (Volatile Organic Compound)

Key literature references and sources for data
HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS
EPA Guide to classifying hazardous substances in New Zealand
EPA - Assigning a product to an existing HSNO approval guide

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Revision Date	14-Jul-2023
Revision Summary	Update to GHS format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet