

1. IDENTIFICATION

Product Name	Propylene glycol
Other Names	1,2-Propylene glycol; Monopropylene glycol
Uses	Generally accepted for use in food, animal feed, flavours and cosmetics and as an excipient (inactive carrier) for pharmaceuticals. *Do not use in theatrical fogs or other artificial smoke generator applications; not an approved additive to cat foodstuff.
Chemical Family	No Data Available
Chemical Formula	C ₃ H ₈ O ₂
Chemical Name	1,2-Propanediol
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not Scheduled

Globally Harmonised System

Hazard Classification NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Signal Word None

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Propylene glycol	C3H8O2	57-55-6	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink a glass of water. Get medical advice/attention if you feel unwell.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for 10 - 15 minutes. If eye irritation persists, get medical advice/attention.
Skin	IF ON SKIN: Remove contaminated clothing and shoes immediately. Flush skin with running water for several minutes. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention.
Advice to Doctor	Treat symptomatically. Following cases of gross over-exposure, investigation of liver, kidney and eye function may be advisable. Records of such incidents should be maintained for future reference.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Combustible liquid; May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction - Do not use water jets.
Fire and Explosion Hazard	Containers may explode when heated. When heated, vapours may form explosive mixtures with air. Fire may produce irritating, toxic and/or corrosive gases, including Carbon oxides.

Hazardous Products of Combustion

Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Flash Point	99 °C [PMCC]
Lower Explosion Limit	2.6 %
Upper Explosion Limit	12.6 %
Auto Ignition Temperature	>421 °C
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	Wash area down with excess water.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). Combustible liquid: Keep away from heat and sources of ignition - No smoking. Do not pressurise containers to empty.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Avoid exposure to air. Protect from moisture. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	For Propane-1,2-diol (CAS No. 57-55-6): - Safe Work Australia Exposure Standard (vapour & particulates): TWA = 150 ppm (474 mg/m3). - Safe Work Australia Exposure Standard (particulates only): TWA = 10 mg/m3. - New Zealand Workplace Exposure Standard (vapour & particulates): TWA = 150 ppm (474 mg/m3). - New Zealand Workplace Exposure Standard (particulates only): TWA = 10 mg/m3.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing

dispersion of it into the general work area.

Personal Protection Equipment	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Organic vapour/particulate filter respirator (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses or goggles. - Hand protection: Handle with gloves. Recommended: Chemical-resistant gloves. - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: Chemical-resistance workwear, safety shoes.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	Odourless
Colour	Colourless
pH	No Data Available
Vapour Pressure	20 Pa (@ 25 °C)
Relative Vapour Density	No Data Available
Boiling Point	184 °C
Melting Point	No Data Available
Freezing Point	<-20 °C
Solubility	Miscible with water 20°C
Specific Gravity	1.03
Flash Point	99 °C [PMCC]
Auto Ignition Temp	>421 °C
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Hygroscopic.
Potential for Dust Explosion	Not applicable.

Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Combustible liquid; May burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including Carbon oxides.
Release of Invisible Flammable Vapours and Gases	When heated, vapours may form explosive mixtures with air.

10. STABILITY AND REACTIVITY

General Information	No information available.
Chemical Stability	Stable under recommended conditions of storage and handling.
Conditions to Avoid	Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong oxidising agents, strong acids, isocyanates.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, toxic and/or corrosive gases, including Carbon oxides.
Hazardous Polymerisation	Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Information on possible routes of exposure: - Ingestion: No adverse effects expected; large amounts may cause nausea and vomiting. - Eye contact: May cause eye irritation. - Skin contact: May cause skin irritation. - Inhalation: Mist/vapours may cause respiratory irritation. - Chronic effects: No information available.
Acute	
Ingestion	Acute toxicity (Oral): - LD50, Rat (male/female): 22,000 mg/kg bw. [ECHA].
Other	Acute toxicity (Dermal): - LD50, Rabbit: >2,000 mg/kg bw. [ECHA].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC50, Fish (Oncorhynchus mykiss): 40,613 mg/L (96 h) [ECHA].
Persistence/Degradability	Ready biodegradable.
Mobility	No information available.
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	Low potential for bioaccumulation.

Environmental Impact No Data Available

13. DISPOSAL CONSIDERATIONS

General Information Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill No information available.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	Propylene glycol
Class	C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Canada)

Proper Shipping Name	Propylene glycol
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	Propylene glycol
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available

SAFETY DATA SHEET PROPYLENE GLYCOL REVISION 4, DATE 14 DEC 18

Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Mexico)

Proper Shipping Name Propylene Glycol
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433

Proper Shipping Name Propylene glycol
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT

Proper Shipping Name Propylene glycol
Class No Data Available
Subsidiary Risk(s) No Data Available
No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available
Comments NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name Propylene glycol
Class No Data Available
Subsidiary Risk(s) No Data Available
UN Number No Data Available
Hazchem No Data Available
Pack Group No Data Available
Special Provision No Data Available

EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Propylene glycol
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not Scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Not Hazardous
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National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Listed
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	200-338-0
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined

New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	PRGLYC0032, PRGLYC1000, PRGLYC1001, PRGLYC1002, PRGLYC1003, PRGLYC1004, PRGLYC1005, PRGLYC1009, PRGLYC1010, PRGLYC1011, PRGLYC1012, PRGLYC1013, PRGLYC1020, PRGLYC1030, PRGLYC1100, PRGLYC1101, PRGLYC1200, PRGLYC1201, PRGLYC1202, PRGLYC1203, PRGLYC1300, PRGLYC1400, PRGLYC1500, PRGLYC1700, PRGLYC1800, PRGLYC1801, PRGLYC1802, PRGLYC1803, PRGLYC1804, PRGLYC1805, PRGLYC1806, PRGLYC1807, PRGLYC1808, PRGLYC1809, PRGLYC1810, PRGLYC1811, PRGLYC1812, PRGLYC1813, PRGLYC1814, PRGLYC1815, PRGLYC1816, PRGLYC1817, PRGLYC1818, PRGLYC1819, PRGLYC1820, PRGLYC1821, PRGLYC1822, PRGLYC1823, PRGLYC1824, PRGLYC1825, PRGLYC1900, PRGLYC1950, PRGLYC2000, PRGLYC2600, PRGLYC2800, PRGLYC2801, PRGLYC2802, PRGLYC2803, PRGLYC2900, PRGLYC3000, PRGLYC3001, PRGLYC3002, PRGLYC3010, PRGLYC3011, PRGLYC3020, PRGLYC3029, PRGLYC3030, PRGLYC3033, PRGLYC3035, PRGLYC3036, PRGLYC3037, PRGLYC3038, PRGLYC3039, PRGLYC3040, PRGLYC3100, PRGLYC3101, PRGLYC3102, PRGLYC3200, PRGLYC3201, PRGLYC3202, PRGLYC3203, PRGLYC3300, PRGLYC3400, PRGLYC3500, PRGLYC3501, PRGLYC3800, PRGLYC4000, PRGLYC4001, PRGLYC4002, PRGLYC4003, PRGLYC4500, PRGLYC5000, PRGLYC5001, PRGLYC5002, PRGLYC5100, PRGLYC5200, PRGLYC5300, PRGLYC5400, PRGLYC6000, PRGLYC6001, PRGLYC6002, PRGLYC6100, PRGLYC6200, PRGLYC6201, PRGLYC6300, PRGLYC6301, PRGLYC7000, PRGLYC7001, PRGLYC7500, PRGLYC8000, PRGLYC8400, PRGLYC8401, PRGLYC8402, PRGLYC8403, PRGLYC8404, PRGLYC8405, PRGLYC8406, PRGLYC8407, PRGLYC8408, PRGLYC8409, PRGLYC8410, PRGLYC8411, PRGLYC8412, PRGLYC8413, PRGLYC8414, PRGLYC8415, PRGLYC8416, PRGLYC8417, PRGLYC8418, PRGLYC8419, PRGLYC8420, PRGLYC8421, PRGLYC8422, PRGLYC8423, PRGLYC8424, PRGLYC8425, PRGLYC8426, PRGLYC8500, PRGLYC8501, PRGLYC8502, PRGLYC8503, PRGLYC8504, PRGLYC8505, PRGLYC8506, PRGLYC8507, PRGLYC8508, PRGLYC8509, PRGLYC8510, PRGLYC8511, PRGLYC8512, PRGLYI0500, PRGLYI0600, PRGLYI0700, PRGLYI0800, PRGLYI0900, PRGLYI1000, PRGLYI1001, PRGLYI1002, PRGLYI1003, PRGLYI1004, PRGLYI1005, PRGLYI1006, PRGLYI1007, PRGLYI1008, PRGLYI1009, PRGLYI1010, PRGLYI1011, PRGLYI1100, PRGLYI1200, PRGLYI1300, PRGLYI1400, PRGLYI1800, PRGLYI1900, PRGLYI2000, PRGLYI2100, PRGLYI3000, PRGLYI3001, PRGLYI3002, PRGLYI6000, PRGLYI6030, PRGLYI7000, PRGLYI7001
Revision	4
Revision Date	14 Dec 2018
Key/Legend	< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water

K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight