Safety Data Sheet
Glycerine
Revision 3, Date 01 Feb 2015

1. IDENTIFICATION

Product Name	**Glycerine**
Other Names	1,2,3-Propanetriol; Crude Glycerine; Glycerin; Glycerol (Vegetable source); Glycyl Alcohol
Uses	Emulsifier, emollient, plasticizer, humectant, sweetener, antifreeze, in surface coatings and paints, cosmetics, drug and food products. Intermediate for making glycerol derivatives.
Chemical Family	No Data Available
Chemical Formula	C3H8O3
Chemical Name	Glycerine
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty 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
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
1, 2, 3-Propanetriol	No Data Available	56-81-5	<=100 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed Remove material from mouth. Drink plenty of water. No typical symptoms and effects known. However, if large amount swallowed or symptoms develop, get medical attention. Do not induce vomiting.

Eye Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops or persists. Get medical attention if irritation develops and persists.

Skin Remove contaminated clothing. Wash off with soap and plenty of water. Get medical attention if irritation develops or persists. If skin irritation occurs: Get medical advice/attention.

Inhaled If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention, if needed.

Advice to Doctor Treat symptomatically based on individual reactions of patient and judgement of doctor.
General advice: If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

Medical Conditions Aggravated by Exposure No information available on medical conditions which are aggravated from exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk.

Flammability Conditions Product is a combustible liquid.

Extinguishing Media In case of fire, appropriate extinguishing media include water, Water fog, water spray, foam, dry powder, carbon dioxide (CO2) and alcohol resistant foam.

Fire and Explosion Hazard Contact of glycerine with strong oxidizing agents such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate may cause an explosion.

Hazardous Products of Combustion During burning poisonous acrolein may be formed.

Special Fire Fighting Instructions Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.

Personal Protective Equipment Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.

Flash Point >198.99 °C PMCC

Lower Explosion Limit No Data Available

Upper Explosion Limit No Data Available

Auto Ignition Temperature ~400 °C

Hazchem Code No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure Eliminate all sources of ignition. Increase ventilation. Avoid walking through spilled product as it may be slippery. Use clean, non-sparking tools and equipment.

Clean Up Procedures Large Spills: Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to

	soak up the product and place into a container for later disposal. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for reuse.
Containment	Stop leak if safe to do so.
Decontamination	Following product recovery, flush area with water.
Environmental Precautionary Measures	Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.
Evacuation Criteria	Evacuate all unnecessary personnel.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	No special precautions required, but avoid eye and skin contact as part of normal industrial hygiene. Prevent formation of mist. Eye and skin contact should be avoided if handling at elevated temperatures. Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours.
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Avoid contact with strong oxidizing agents such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate. This product is classified as a 'C2' Combustible Liquid for the purpose of storage and handling in accordance with the requirements of AS1940.
Container	Store in original packaging as approved by manufacturer. Store in clean tight containers to prevent moisture pickup from air. Can be stored in aluminum, stainless steel, fiberglass or resin lined steel vessels.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC); Glycerin (mist) CAS no: 56-81-5 TWA = 10 mg/m3 NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
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. Adequate ventilation should be provided so that exposure limits are not exceeded. Mechanical ventilation may be necessary if working at elevated temperatures or in enclosed areas.
Personal Protection Equipment	RESPIRATOR: None required for ambient temperature, although an appropriate approved air-purifying respirator should be used if a mist, vapour or dust is generated. An approved self-contained breathing apparatus or air-supplied respirator is recommended if the concentration exceeds the capacity of cartridge respirator. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres (AS1715/1716). EYES: None required, although eye protection is recommended as part of good industrial hygiene (AS1336/1337). HANDS: None required with normal use (AS2161). CLOTHING: Normal work clothing and safety footwear (AS3765/2210).
Work Hygienic Practices	No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Viscous liquid

Odour	Generally odourless
Colour	Colourless to yellow, brown
pH	No Data Available
Vapour Pressure	<0.01 mmHg (@ 50 °C)
Relative Vapour Density	No Data Available
Boiling Point	>=290 °C
Melting Point	18 °C
Freezing Point	No Data Available
Solubility	Soluble
Specific Gravity	1.26
Flash Point	>198.99 °C PMCC
Auto Ignition Temp	~400 °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	-1.8
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	1410mPa.s (@ 20 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	Product is a liquid.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	Combustible liquid. Physical/Chemical Hazards: Contact of glycerine with strong oxidizing agents such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate may cause an explosion.
Chemical Stability	Stable at ambient temperature and under normal conditions of use.
Conditions to Avoid	Avoid temperatures exceeding 200 Deg C as decomposition may occur. Contact of glycerine with strong oxidizing agents such as Nitric Acid or other strong acids, Chromium Trioxide,

Materials to Avoid	Potassium Chlorate, or Potassium Permanganate may cause an explosion.
Hazardous Decomposition Products	Dangerous Decomposition Product - Acrolein (>280 Deg C)
Hazardous Polymerisation	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

General Information	TOXICITY DATA: Oral LD50 >20000 mg/kg (rat) Inhalation L(Ct)50 4655 mg/min/litre (rat) Dermal LD50 45 ml/kg (guinea pig) Germ cell mutagenicity: Ames test Result: Negative Species: Salmonella Typhimirium (Salmonella enterica)
EyeIrritant	Accidental exposure to the eyes will cause only a mild but transient irritation.
Ingestion	Unlikely to be harmful unless excessive amount.
Inhalation	Not applicable at ambient temperature. Glycerine mist may be irritative to respiratory tract.
SkinIrritant	Unlikely to be irritant. Heated product may cause thermal burns if contacted.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	1,2,3PROPANETRIOL (56815): LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss): 51000 - 57000 mg/l 96.00 hours Ecotoxicity: Components of this product have been identified as having potential environmental concerns. Environmental effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Persistence/Degradability	Percent degradation (Aerobic biodegradation-ready) Result: Readily biodegradable Species: Activated sludge, industrial Test Duration: 24 hours
Mobility	Calculation result: 0.000000006 atm m3/mol@25oC
Environmental Fate	No Data Available
Bioaccumulation Potential	Octanol/water partition coefficient log Kow = -1.75.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

Land Transport (New Zealand)
NZS5433

Proper Shipping Name	GLYCERINE

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	GLYCERINE
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	GLYCERINE
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.

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

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Listed

Canada (NDSL)	Not Determined
China (IECSC)	Listed
Europe (EINECS)	200-289-5
Europe (REACh)	Not Determined
Japan (ENCS/METI)	Listed
Korea (KECI)	KE-29297
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes

GLYCER0300, GLYCER0400, GLYCER0500, GLYCER0700, GLYCER0800, GLYCER1000, GLYCER1001, GLYCER1002, GLYCER1003, GLYCER1004, GLYCER1005, GLYCER1006, GLYCER1007, GLYCER1008, GLYCER1009, GLYCER1010, GLYCER1011, GLYCER1012, GLYCER1013, GLYCER1014, GLYCER1015, GLYCER1016, GLYCER1017, GLYCER1018, GLYCER1019, GLYCER1020, GLYCER1021, GLYCER1022, GLYCER1023, GLYCER1024, GLYCER1025, GLYCER1026, GLYCER1027, GLYCER1028, GLYCER1029, GLYCER1030, GLYCER1031, GLYCER1032, GLYCER1033, GLYCER1034, GLYCER1035, GLYCER1036, GLYCER1037, GLYCER1038, GLYCER1039, GLYCER1040, GLYCER1041, GLYCER1042, GLYCER1043, GLYCER1044, GLYCER1045, GLYCER1048, GLYCER1049, GLYCER1100, GLYCER1110, GLYCER1120, GLYCER1200, GLYCER1300, GLYCER1400, GLYCER1500, GLYCER1501, GLYCER1502, GLYCER1503, GLYCER1504, GLYCER1505, GLYCER1506, GLYCER1507, GLYCER1508, GLYCER1509, GLYCER1510, GLYCER1550, GLYCER1600, GLYCER1601, GLYCER1650, GLYCER1700, GLYCER1701, GLYCER1702, GLYCER1703, GLYCER1750, GLYCER1751, GLYCER1760, GLYCER1762, GLYCER1763, GLYCER1764, GLYCER1765, GLYCER1766, GLYCER1800, GLYCER1801, GLYCER1802, GLYCER1803, GLYCER1804, GLYCER1805, GLYCER1806, GLYCER1807, GLYCER1808, GLYCER1809, GLYCER1810, GLYCER1811, GLYCER1812, GLYCER1813, GLYCER1814, GLYCER1815, GLYCER1816, GLYCER1817, GLYCER1818, GLYCER1819, GLYCER1820, GLYCER1821, GLYCER1822, GLYCER1823, GLYCER1824, GLYCER1900, GLYCER2000, GLYCER2001, GLYCER2002, GLYCER2003, GLYCER2004, GLYCER2005, GLYCER2006, GLYCER2007, GLYCER2008, GLYCER2100, GLYCER2200, GLYCER2500, GLYCER2501, GLYCER2502, GLYCER2600, GLYCER2601, GLYCER2700, GLYCER2800, GLYCER2900, GLYCER3000, GLYCER3001, GLYCER3002, GLYCER3010, GLYCER3110, GLYCER3155, GLYCER3200, GLYCER3300, GLYCER3500, GLYCER3800, GLYCER3900, GLYCER4000, GLYCER4001, GLYCER4002, GLYCER4100, GLYCER4400, GLYCER4500, GLYCER4800, GLYCER5000, GLYCER5100, GLYCER5101, GLYCER5102, GLYCER5103, GLYCER5105, GLYCER5110, GLYCER5111, GLYCER5120, GLYCER5150, GLYCER5152, GLYCER5153, GLYCER5154, GLYCER5197, GLYCER5200, GLYCER5201, GLYCER5202, GLYCER5203, GLYCER5210, GLYCER5212, GLYCER5213, GLYCER5220, GLYCER5225, GLYCER5226, GLYCER5250, GLYCER5280, GLYCER5281, GLYCER5283, GLYCER5290, GLYCER5291, GLYCER5293, GLYCER5295, GLYCER5296, GLYCER5297, GLYCER5298, GLYCER5300, GLYCER5305, GLYCER5400, GLYCER5401, GLYCER5403, GLYCER5405, GLYCER5406, GLYCER5450, GLYCER5500, GLYCER5501, GLYCER5502, GLYCER5503, GLYCER5512, GLYCER5600, GLYCER6000, GLYCER6001, GLYCER6002, GLYCER6100, GLYCER6500, GLYCER6600, GLYCER6700, GLYCER6800, GLYCER7000, GLYCER7100, GLYCER7103, GLYCER7180, GLYCER7185, GLYCER7200, GLYCER7300, GLYCER7400, GLYCER7500, GLYCER7501, GLYCER7600, GLYCER7700, GLYCER7800, GLYCER7840, GLYCER7850, GLYCER7900, GLYCER7905, GLYCER7940, GLYCER7950, GLYCER8000, GLYCER8100, GLYCER8200, GLYCER8300, GLYCER8400, GLYCER8500, GLYCER8600, GLYCER8700, GLYCER8800, GLYCER8900, GLYCER9000, GLYCER9100, GLYCER9200, GLYCER9201, GLYCER9400, GLYCER9500, GLYCER9501, GLYCER9503, GLYCER9600, GLYCER9605, GLYCER9700, GLYCER9800, GLYCER9900, GLYCER9910

Revision 3

Revision Date	01 Feb 2015
Reason for Issue	Updated SDS
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 Heath 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