SAFETY DATA SHEET

PRODUCT NAME: GLYCERINE

Issue Date: August 22

IDENTIFICATION

Product Name: Glycerine
Other Names: Glycerin, Glycerol, 1.2.3-Propanetriol, Glyceritol, Glycic Alcohol, 1,2,3-Trihydroxypropane
Product Code: CGLY1, CGLY5, CGLY20, CGLY200
Uses: As solvent, humectant, plasticizer, emollient, sweeter; in the manufacture of nitroglycerol (explosive), cosmetics, liquid soaps, liqueurs, confectionaries, blacking, printing and copying inks and lubricants. It is also used in the manufacture of elastic glues, lead oxide cements; to keep fabrics pliable; to preserve printing on cotton; for printing rollers; to keep frost from windshields; as anti freeze in automobiles, gas meters and hydraulic jacks, in shock absorber fluids. In fermentation nutrients in production of antibiotics.
Supplier: HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton
Phone: 079744971 Web: www.hamchem.nz Email: info@hamchem.nz

- **In emergency dial 111, and then ask for Fire, Ambulance or Police as necessary.**
- **In case of poisoning phone National Poisons Centre – 0800 764 766**

HAZARD IDENTIFICATION

Classified as Non-Hazardous according to the criteria of the NZ Hazardous Substances and New Organisms legislation and the GHS 7th Edition.

Emergency Overview
Non-hazardous
Health injuries are not known or expected under normal use
Adverse ecological effects are not known or expected

Response
If in contact with eyes, rinse thoroughly
If any irritation occurs, seek medical advice

COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Entity	CAS No.	Proportion (%)
Glycerine	56-81-5	>96

FIRST AID MEASURES

If swallowed: Rinse mouth. Give a glass of water. First aid is not generally required. If in doubt, contact a Poison Centre (0800 764 766) or a Doctor.

If on skin: If skin contact occurs: remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

If inhaled: Remove to fresh air. Encourage person to blow nose to ensure clear passage of breathing. Other measures are usually unnecessary. If symptoms persist, call a Doctor.

If in eyes: If this product comes in contact with the eyes: Wash out immediately with running water. If irritation occurs/persists, seek medical attention.

Note to Physician: Treat symptomatically.

FIRE FIGHTING MEASURES

Extinguishing media: In case of fire, use appropriate extinguishing media most suitable for the surrounding fire conditions: water, water spray, dry powder, foam, carbon dioxide (CO2)

Fire fighting: Alert Fire Brigade and tell them location and nature of hazard. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. DO NOT approach containers suspected to be hot. Cool fire exposed containers with water spray from a protected location. If safe to do so, remove containers from path of fire.

Fire/explosion hazard: Combustible. Slight fire hazard when exposed to heat or flame. Heating may cause expansion or decomposition leading to violent rupture of containers. On combustion, may emit toxic fumes of carbon monoxide (CO). May emit acrid smoke. Mists containing combustible materials may be explosive. Combustion products include: carbon dioxide (CO2), other pyrolysis products typical of burning organic material. May emit poisonous fumes of Acrolein if heated above 280°C. Acrolein appears as a colourless gas in smoke and is highly toxic. It causes severe irritation to exposed skin, eyes and the nasal passage. May emit corrosive fumes.

Fire incompatibility: Avoid contamination with oxidizing agents i.e. nitrates, oxidizing acids, chlorine bleaches, pool chlorine etc. as ignition may result.

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

ACCIDENTAL RELEASE MEASURES

Minor spills: Slippery when spilt. Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable labelled container for waste disposal.

Major spills: Slippery when spilt. Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources. Increase ventilation. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Absorb remaining product with sand, earth or vermiculite. Collect solid residues and seal in labeled drums for disposal. Wash area and prevent runoff into drains. If contamination of drains or waterways occurs, advise emergency services.

HANDLING & STORAGE

Procedure for handling: Wear protective clothing when risk of exposure occurs. Avoid contact with incompatible materials. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Use good occupational work practice. Observe manufacturers storing and handling recommendations. Do not allow clothing wet with material to stay in contact with skin.

Suitable container: Original packaging. Metal can or drum. Check all containers are clearly labeled and free from leaks.

HamChem Ltd, 75 Ruffell Road, Hamilton, New Zealand. Phone: 07-974-4971 Email: info@hamchem.nz Web: www.hamchem.nz

Storage incompatibility: Avoid reaction with oxidising agents. Avoid reaction with strong oxidising agents such as chromium trioxide, acetic anhydride, chromium oxides, calcium oxychloride, alkali metal hydrides, potassium chlorate and potassium permanganate as an explosive or violent reaction may occur.

Storage requirements: Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturers storing and handling recommendations.

EXPOSURE CONTROLS & PERSONAL PROTECTION

Exposure standards:
New Zealand Workplace Exposure Standards (WES) Glycerine (mist) TWA - 10 mg/m^3
The mist is considered to be a nuisance particulate which appears to have little adverse effect on the lung and does not produce significant organic disease or toxic effects.

Engineering controls: 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. Refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal protective equipment:

PERSONAL RESPIRATORS For conditions of use where exposure to dust or mist is apparent and engineering controls are not feasible, a particulate respirator (NIOSH type N95 or better filters) may be worn. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. For more information see Australian/New Zealand Standard, AS/NZS 1715:2009 and AS/NZS 1716:2003.

SKIN PROTECTION Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Refer to AS/NZS 2161.1:2000 Occupational Protective Gloves – Selection, use and maintenance.

EYE PROTECTION: Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

PHYSICAL & CHEMICAL PROPERTIES

Appearance: Oily, colourless, odourless liquid, with syrupy, sweet taste.

Physical Properties: Miscible with water and alcohol. Insoluble in benzene, ether, chloroform, fixed and volatile oils. Absorbs water from the air. Also absorbs hydrogen sulphides, hydrogen cyanides and Sulphur dioxide.

State	Liquid
Molecular Weight	92.1
Melting Range (°C)	18
Boiling Range (°C)	290
Solubility in Water (g/L)	Miscible
pH (1% solution)	7
Specific Gravity (water = 1, 20°C)	1.2-1.3
Bulk Density	No data available
Volatile Component (%vol, 38°C)	0

Relative Vapour Density (air=1)	3.17
Vapour Pressure (kPa)	<0.1
Autoignition Temp (°C)	370
Flash Point (°C)	160
Lower Explosive Limit (%)	3
Upper Explosive Limit (%)	19
Decomposition Temp (°C)	290
Viscosity	No data available
Evaporation Rate	Non Volatile

STABILITY & REACTIVITY

Stability: Product is stable under normal conditions of use, storage and temperature.

Conditions to Avoid: Avoid excessive heat, direct sunlight, static discharges, moisture and freezing and high temperatures. Decomposes above 290°C.

Hazardous polymerization: Will not occur.

Incompatible Materials: Avoid reaction with oxidising agents, strong oxidising agents such as chromium trioxide, acetic anhydride, chromium oxides, calcium oxychloride, alkali metal hydrides, potassium chlorate and potassium permanganate as an explosive or violent reaction may occur.

TOXICOLOGICAL INFORMATION

ACUTE HEALTH EFFECTS

Swallowed: Ingestion of significant quantities may produce nausea and vomiting.

Eye: Prolonged eye contact may cause inflammation characterized by a temporary redness of the conjunctiva (similar to windburn).

Skin: Skin contact is not expected to have harmful health effects.

Inhaled: The material is not expected to have harmful health effects.

Chronic Health Effects: No data available.

Toxicity: Acute Oral Toxicity, Rat, LD_{50}: 12600 mg/kg; Acute Dermal Toxicity, LD_{50}: >4000 mg/kg; Inhalation: No data available.

ECOLOGICAL INFORMATION

Ecotoxicity (Aquatic & Terrestrial): Non hazardous in the aquatic environment.

Toxicity Data:
Fish (*Carassius auratus),* 24hr LC_{50}: >5000mg/L
Crustacean (*Daphnia magna),* 24hr EC_{50}: >10000 mg/L
Algae IC_{50}: >2900 mg/L
Bacteria EC_{50}: >10000 mg/L (Pseudomonas Putida)

Persistence & degradability: DOD_5: 82% of THOD and 86% of COD. Readily biodegradable under aerobic conditions.

Mobility: Complete soluble.

Environmental Fate (Exposure): 100% of Glycerine is expected to end up in the water phase.

Bio accumulative Potential: Log Kow: -1.76. Glycerine is expected to have a low potential for sorption to soil and is not expected to bioaccumulate. Calculated bioconcentration factor: 3.162.

Do NOT discharge into sewer or waterways.

DISPOSAL CONSIDERATIONS

Recycle wherever possible. Consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.

Dispose of by: Burial in a licensed land-fill or incineration in a licensed apparatus (after admixture with suitable combustible material). Empty contaminated packaging should be taken for local recycling, recovery or waste disposal.

TRANSPORT INFORMATION

Not classified as a Dangerous Good under NZS 5433:2012 Transport of Dangerous Goods on Land.

REGULATORY INFORMATION

HSNO Classifications: N/A

OTHER INFORMATION

Key to abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists.
ACVM – Agricultural Chemicals and Veterinary Medicines
AICS – Australian Inventory of Chemical Substances.
AOX – Absorbable organic halogens.
APF – Assigned Protection Factor.
BOD – Biochemical Oxygen Demand
China IECSC – Inventory of Existing Chemical Substances Produced or Imported in China.
COD – Chemical Oxygen Demand
DSL – Canadian Domestic Substances List.
EINECS – European Inventory of Existing Commercial Chemical Substances.
ENCS – Japanese Existing and New Chemical substances.
IARC – International Agency for Research on Cancer.
ISHL – Japanese Industrial Safety and Health Law List of Chemicals.
LOEL – Lowest Observed Effect Level.
LDLO – Lethal Dose Low (the lowest dosage per unit of bodyweight of a substance known to have resulted in fatality in a particular animal species).
NOEC – No Observed Effect Concentration.
NTP – National Toxicology Program.
NZIoC – New Zealand Inventory of Chemicals.
OECD HPV – The Organisation for Economic Co-operation and Development High Product Volume Chemicals.
PEL – Permissible exposure limit.
PPE – Personal Protective Equipment.
Prop 65 – California Proposition 65 List of Chemicals.
RTECS – Registry of Toxic Effects of Chemical substances
STEL – Short term exposure limit.
TOC – Total Organic Carbon.
TSCA – US Toxic Substances Control Act Existing Chemicals.
TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.
VOC – Volatile Organic Compounds.

End of SDS.

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