



# SAFETY DATA SHEET

## GLYCERINE

### Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### STATEMENT OF HAZARDOUS NATURE

Not considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

**SYNONYMS:** C3-H8-O3, glycerin, "glycerin, anhydrous", "glycerin, synthetic", glycerine, glyceritol, "glycyl alcohol", "1, 2, 3-propanetriol", trihydroxypropane, "1, 2, 3-trihydroxypropane"

**PROPER SHIPPING NAME:** Not regulated for transport internationally  
**CAS NUMBER:** 56-81-5  
**UN NUMBER:** Not Regulated

**PRODUCT USE:** As solvent, humectant, plasticiser, emollient, sweetener; in the manufacture of nitroglycerol (explosive), cosmetics, liquid soaps, liqueurs, confectioneries, 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 antifreeze in automobiles, gas meters and hydraulic jacks, in shock absorber fluids. In fermentation nutrients in production of antibiotics.

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**TRANSFER NOTICE:** Not Transferred, Not a Hazardous Substance

Glycerine CAS Number 56-81-5 is listed in the New Zealand Inventory of Chemicals:  
<http://www.epa.govt.nz/search-databases/Pages/nzioc-details.aspx?SubstanceID=2026>

### Section 2 - HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Not hazardous

#### CONTROLS APPLYING TO THIS SUBSTANCE ARE:

None, not hazardous

24 HOUR EMERGENCY CONTACT TELEPHONE 0800 CHEMCALL 0800 243 622

**PRECAUTIONARY STATEMENTS****PREVENTION**

Wash hands thoroughly after handling.

Wear eye/face protection.

**RESPONSE**

If skin irritation occurs, seek medical attention.

Call a POISON CENTER or doctor if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists, get medical attention.

**Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS**

| NAME      | CAS RN  | %    | Hazardous |
|-----------|---------|------|-----------|
| Glycerine | 56-81-5 | > 96 | No        |

**Section 4 - FIRST AID MEASURES****SWALLOWED**

Immediately give a glass of water.

First aid is not generally required. If in doubt, contact a Poison Centre (0800 764766) or a doctor.

**EYE**

If this product comes in contact with the eyes:

Wash out immediately with fresh running water.

Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

If pain persists or recurs seek medical attention.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

**SKIN**

If skin contact occurs:

Immediately remove all contaminated clothing, including footwear

Flush skin and hair with running water (and soap if available).

Seek medical attention in event of irritation.

**INHALED**

If fumes or combustion products are inhaled remove from contaminated area.

Other measures are usually unnecessary.

**NOTES TO PHYSICIAN**

Treat symptomatically.

**Section 5 - FIRE FIGHTING MEASURES****EXTINGUISHING MEDIA**

Water spray or fog.

Foam.

Dry chemical powder.

Carbon dioxide.

**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 (CO<sub>2</sub>), other pyrolysis products typical of burning organic material.

May emit poisonous fumes.

May emit corrosive fumes.

**FIRE INCOMPATIBILITY**

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

**Section 6 - 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 labelled drums for disposal.

Wash area and prevent runoff into drains.

If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

Avoid all personal contact, including inhalation.  
 Wear protective clothing when risk of exposure occurs.  
 Use in a well-ventilated area.  
 Prevent concentration in hollows and sumps.  
 DO NOT enter confined spaces until atmosphere has been checked.  
 Avoid smoking, naked lights or ignition sources.  
 Avoid contact with incompatible materials.  
 When handling, DO NOT eat, drink or smoke.  
 Keep containers securely sealed when not in use.  
 Avoid physical damage to containers.  
 Always wash hands with soap and water after handling.  
 Work clothes should be laundered separately.  
 Use good occupational work practice.  
 Observe manufacturer's storing and handling recommendations.  
 Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.  
 DO NOT allow clothing wet with material to stay in contact with skin.

### SUITABLE CONTAINER

Metal can or drum  
 Packaging as recommended by manufacturer.  
 Check all containers are clearly labelled and free from leaks.

### 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

Store in original containers.  
 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 manufacturer's storing and handling recommendations.

## Section 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### EXPOSURE CONTROLS

| Source  | Material                 | TWA<br>ppm | TWA<br>mg/m <sup>3</sup> | STEL<br>ppm | STEL<br>mg/m <sup>3</sup> | Peak<br>ppm | Peak<br>mg/m <sup>3</sup> | TWA<br>F/CC |
|---|--------------------------|------------|--------------------------|-------------|---------------------------|-------------|---------------------------|-------------|
| New Zealand Workplace Exposure Standards (WES 2013) | glycerol (Glycerin mist) |            | 10                       |             |                           |             |                           |             |

### MATERIAL DATA

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.

**PERSONAL PROTECTION****EYE**

Safety glasses with side shields/chemical goggles.

**HANDS/FEET**

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber.

**OTHER**

Overalls, P.V.C. apron.

Barrier cream.

Skin cleansing cream.

Eye wash unit.

**ENGINEERING CONTROLS**

Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.

**Section 9 - PHYSICAL AND CHEMICAL PROPERTIES****APPEARANCE**

Oily, colourless, odourless liquid, with syrupy, sweet taste. Miscible with water and alcohol. Insoluble in benzene, ether, chloroform, fixed and volatile oils. Absorbs water from the air. Also absorbs hydrogen sulphide, hydrogen cyanide and sulphur dioxide.

**PHYSICAL PROPERTIES**

Liquid. Mixes with water.

| Property                       | Value          |
|--------------------------------|----------------|
| Molecular Weight:              | 92.1           |
| Melting Range (°C):            | 18             |
| Solubility in water (g/L):     | Miscible       |
| pH (1% solution):              | ~7             |
| Volatile Component (%vol):     | Nil @ 38°C     |
| Relative Vapor Density(air=1): | 3.17           |
| Lower Explosive Limit (%):     | 3              |
| Autoignition Temp (°C):        | 370            |
| State:                         | Liquid         |
| Boiling Range (°C):            | 290            |
| Specific Gravity (water=1):    | 1.2-1.3 @ 20°C |
| pH (as supplied):              | Not Applicable |
| Evaporation Rate:              | Non Volatile   |
| Flash Point (°C):              | 160            |
| Upper Explosive Limit (%):     | 19             |
| Decomposition Temp (°C):       | 160            |
| Viscosity:                     | Not available  |

**Section 10 - CHEMICAL STABILITY AND REACTIVITY****CONDITIONS CONTRIBUTING TO INSTABILITY**

Presence of incompatible materials including oxidizing agents.

Product is considered stable.

Hazardous polymerisation will not occur.

**24 HOUR EMERGENCY CONTACT TELEPHONE 0800 CHEMCALL 0800 243 622**

## Section 11 - TOXICOLOGICAL INFORMATION

### POTENTIAL ACUTE HEALTH EFFECTS

#### SWALLOWED

The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (eg. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

#### EYE

Limited evidence or practical experience suggests, that the material may cause eye irritation in a substantial number of individuals. Prolonged eye contact may cause inflammation characterised by a temporary redness of the conjunctiva (similar to windburn).

#### SKIN

There is some evidence to suggest that the material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering. Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

#### INHALED

The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Not normally a hazard due to non-volatile nature of product.

### CHRONIC HEALTH EFFECTS

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Glyceryl triesters (triglycerides) undergo metabolism to become free fatty acids and glycerol. Animal studies show that there is no toxicity when given by mouth unless the material takes up a large proportion of energy intake.

### TOXICITY AND IRRITATION

#### TOXICITY

Oral (rat) LD50: 12600 mg/kg

#### IRRITATION

The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

## Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.  
log Kow: -2.66- -2.47  
BOD 5 if unstated: 0.617-0.87,31-51%  
COD: 1.16,82-95%  
ThOD: 1.217-1.56  
Completely biodegradable.  
Fish LC50: >5000 mg/l  
Algae IC50: >2900 mg/l  
Bacteria EC50: .10000 mg/l (Pseudomonas putida)

## Section 13 - DISPOSAL CONSIDERATIONS

Recycle wherever possible.  
Consult manufacturer for recycling options or 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)

## Section 14 - TRANSPORT INFORMATION

HAZCHEM: None  
NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: UN, IATA, IMDG  
Not classified as a Dangerous Good under NZS 5433:2007 Transport of Dangerous Goods on Land.

## Section 15 - REGULATORY INFORMATION

### REGULATIONS

Non-hazardous  
Glycerine (CAS: 56- 81- 5) is found on the following regulatory lists;  
CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP  
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances International Council of Chemical Associations (ICCA) - High Production Volume List  
New Zealand Workplace Exposure Standards (WES)  
OECD Representative List of High Production Volume (HPV) Chemicals

## Section 16 - OTHER INFORMATION

NEW ZEALAND POISON CENTRE 0800 POISON (0800 764 766)  
NZ EMERGENCY SERVICES: 111

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