



MATERIAL SAFETY DATA SHEET

REFINED GLYCERINE

1. Product and Company Identification

Product Name	Refined Glycerine
Commercial Description	Refined Glycerine 99.5% Min Refined Glycerine 99.7% Min
Material / Origin	Crude Glycerine

2. Composition / Information on Ingredients

Chemical Name	1,2,3 – propanetriol Glycerol C ₃ H ₈ O ₃
CAS No.	56-81-5
EC-No.	2002895
EC Symbols	Not Applicable
EC R-phrases	None

3. Hazards Identification

European Hazard classification	This product is not classified as dangerous according to Directive 67/548/EEC
Potential Health Effect	Eye – Concentrated solutions may cause mild transient irritation Skin – Unlikely to be irritant. Heated product may cause thermal burns if contacted Inhalation – Not applicable at ambient temperature. Glycerine mist may be irritative to respiratory tract Ingestion – Unlikely to be harmful unless excessive amount

Physical / Chemical Hazards

Contact of glycerine with strong oxidizing agent such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate or Potassium Permanganate may cause an explosion

Environmental Hazards

Product is biodegradable

4. First-Aid Measures

General	In all cases of doubt, or when symptoms persist, seek medical attention
Inhalation	Use self-contained breathing equipment if in confined place. Remove to fresh air. If suffocation is serious, take to a doctor
Skin Contact	Use gloves. Remove contaminated clothing. Wash skin thoroughly with plenty of water. Take to a doctor if necessary
Eye Contact	Wash out with plenty of water. Get medical attention if any sensations persist
Ingestion	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

5. Fire Fighting Measures

Flash Point (Method Used)	198.9°C (PMCC)
Auto-ignition temperature	Approx 400°C
LEL	N.A.
UEL	N.A.
Extinguishing Media	Use water spray, alcohol resistant foam, CO ₂ or dry chemical
Special Fire Fighting Procedure	Use water spray to cool drums exposed to fire
Special Fire Fighting Equipment	Firefighters should use self-contained breathing apparatus and full protective clothing
Other Fire Fighting Consideration	Contact of glycerine with strong oxidizing agent such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate may cause explosion
Hazardous decomposition/ combustion products	At elevated temperatures there is a risk of exothermic polymerization (>200°C). At temperature >280°C, acrolein may be formed

6. Accidental Release Measures

Personal Precautions	The usual precautions for handling chemicals should be observed
Environmental Precautions	Minimize contamination of drains, surface and ground waters
Procedure for Spill / Leak Clean-up	Transfer product to suitably labeled containers for disposal at an approved site. Residues and small spillages may be washed away with water and detergent

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
Storage	Store in clean tight containers to prevent moisture pick up from air. Can be stored in clean aluminum, stainless steel, fiberglass or suitable resin-lined steel vessels. In bulk, store at ambient temperature. For pumping, heat up to not more than 45°C
Other Recommendations	Avoid contact with strong oxidizing agent such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate or Potassium Permanganate

8. Exposure Control / Personal Protection

General Precaution	Good industrial hygiene should be followed. Avoid breathing mist
Exposure Limit Values - glycerine	Refer to respective countries' established limits (<i>if any</i>)
Engineering Controls	Ventilation: Local exhaust – preferred Mechanical (general) – acceptable Provide ventilation to meet exposure limits
Personal Protective Equipment	Eye – Not required, although eye protection is recommended as part of good industrial hygiene Skin – Protective gloves : None required with normal use Inhalation – An appropriate NIOSH/MSHA approved respirator should be used if a mist or vapor is generated. A NIOSH/MSHA approved self-contained breathing apparatus or air-supplied respirator is recommended if the concentration exceeds the capacity of cartridge respirator. WARNING: Air purifying respirator does not protect workers in oxygen-deficient atmospheres

9. Physical and Chemical Properties

Boiling Point @ 760 mmHg (101.3 kPa)	290°C
Specific Gravity (H₂O = 1)	Approx. 1.26
Vapor Pressure	0.0025 mmHg @ 50°C
Vapor Density, Air = 1	Not Available
Appearance and Odor	Water white clear liquid and odorless
Volatiles, % by Volume	Not volatile
Solubility in H₂O	Soluble
pH	Neutral
Flash Point , method	198.9°C (PMCC)
Melting Point	Approx. 18°C (solidifies at a much lower temperature)
Viscosity	1410mPa.s at 20°C

Auto ignition temperature	Approx 400°C
Flammability (solid, gas)	Not Determined
Explosive properties	Not to be expected
Oxidizing properties	Not to be expected

10. Stability and Reactivity

Stability

Stable under normal operational procedures

Conditions to avoid Temp >200°C (Polymerization, Decompose)
Keep away from sources of ignition and naked flames

Dangerous Decomposition Products Acrolein (>280°C)

Decomposition Advices No decomposition if used according to specification

Reactivity

Material to avoid Contact of glycerine with strong oxidizing agent such as Nitric Acid or other strong acids, Chromium Trioxide, Potassium Chlorate, or Potassium Permanganate may cause explosion

Hazardous polymerization Will not occur

11. Toxicological Information

Acute Toxicity

Oral LD₅₀ >2000 mg/kg (rat)

Irritation

Skin Mildly irritating

Eye Mildly irritating

Chronic Toxicity

No additional adverse health effects noted

12. Ecological Information

Ecotoxicity

- Fish 96h-LC₅₀: >5000 mg/l
- Algae 48h-EC₅₀: > 2900 mg/l
- Bacteria 72h-IC₅₀: > 10,000 mg/l

Mobility

Low potential for sorption to soil. Glycerine will partition primarily to water.

Persistence and degradability

Readily biodegradable (OECD 301)

Bioavailability

Low bioaccumulation potential and is not expected to bioaccumulate

13. Disposal Considerations

Disposal is to be performed in compliance with all federal, state/provincial and local regulations. Do not dispose of via sinks, drains or into immediate environment

14. Transportation Requirements

U.S DOT Not regulated for transport
Not a hazardous material according to RID/ADR, IMDG, ICAO-TI/IATA-DGR

15. Regulatory Information

Inventory Status TSCA, EINECS, DSL, JAPAN, AUSTRALIA, PHIL, CHINA, KOREA, NEW ZEALAND, SWITZERLAND
WGK water endangering class 1, low hazard to water
EU Classification This product is not classified as dangerous according to Directive 67/548/EEC

16. Other Information

This MSDS only concerns the above mentioned product and does not need to be valid if used with other products or in any process. This MSDS is intended to provide a brief summary of our knowledge and guidance regarding the use of this product. The information contained here is offered in good faith but without warranty, and has been compiled from sources considered to be dependable and is accurate to the best of the Company's knowledge. It remains the user's own responsibility to make sure the information is appropriate and complete for his special use of this product. assumes no responsibility for injury to the recipient or third persons or for any damage to any property resulting from misuse of this product.

Any Other Information None
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