

Glycerol SDS/MSDS (Safety Data Sheet)

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

- * Product Name: Glycerol
- * Catalog Number: S2766
- * CAS Number: 56-81-5
- * IUPAC Name: 1,2,3-Propanetriol

Relevant identified uses and uses advised against

- * Identified uses: For research and development use only; laboratory chemicals; manufacture of substances.
- * Uses advised against: Not for pharmaceutical, household, or other unapproved uses.

Details of the supplier

- * Company: Selleck Chemicals
- * TollFree: +1 877 796-6397
- * Tel: +1 832 582-8158
- * Fax: +1 832 582-8590

Emergency telephone number

- * Emergency phone #: +1 832 582-8158

2. HAZARDS IDENTIFICATION

2.1 GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Not classified as a hazardous substance according to GHS.

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram(s) None.

Signal Word Not applicable

Hazard statement(s) None.

Precautionary statement(s) None.

2.3 Other hazards

None.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Product name: Glycerol
CAS Number: 56-81-5
PubChem CID: 753

3.2 Mixtures

Not applicable (pure substance).

4. FIRST-AID MEASURES

4.1 Description of first aid measures

Inhalation: Fresh air, rest.

Skin contact: Rinse skin with plenty of water or shower. Rinse skin with plenty of water or shower.

Eye contact: First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Ingestion: Rinse mouth. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 (Toxicological Information).

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Contact a poison control center or physician for severe exposure.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable: Water spray, dry chemical, carbon dioxide (CO₂), alcohol-resistant foam.

Unsuitable: None known.

5.2 Specific hazards arising from the substance or mixture

Use water spray, alcohol-resistant foam, dry powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

Water or foam may cause frothing.

Extinguishing methods: Alcohol foam.

To fight fire, use alcohol foam, CO₂, dry chemical.

This material is combustible and may explode when exposed to strong oxidizers, flame, or extreme heat.

5.3 Advice for firefighters

Wear self-contained breathing apparatus (SCBA) and full protective clothing.

Fight fire from upwind. Cool containers with water spray until fire is extinguished.

Flash point: 320 °F (NTP, 1992)

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate personal protective equipment (see Section 8).

Avoid breathing dust/vapor. Ensure adequate ventilation.

Evacuate personnel to safe areas. Keep people away from and upwind of spill.

6.2 Environmental precautions

Prevent product from entering drains, waterways, or soil.

Contain spill with inert absorbent material.

6.3 Methods and materials for containment and cleaning up

Ventilation. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

Wear approved respiratory protection, chemically compatible gloves and protective clothing. Wipe up spillage or collect spillage using a high efficiency vacuum cleaner. Avoid breathing vapor. Place spillage in appropriately labelled container for disposal.

Absorb with paper. Evaporate completely all spilt surface. Dispose by burning the paper after complete ventilation of vapor.

SRP: The most favorable course of action is to use an alternative chemical product with less inherent propensity for occupational harm/injury/toxicity or environmental contamination. Recycle any unused portion of the material for its approved use or return it to the manufacturer or supplier. Ultimate disposal of the chemical must consider: the material's impact on air quality; potential migration in soil or water; effects on animal and plant life; and conformance with environmental and public health regulations.

Mixture with a more flammable solvent followed by incineration.

SRP: The scientific literature for the use of contact lenses by industrial workers is inconsistent. The benefits or detrimental effects of wearing contact lenses depend not only upon the substance, but also on factors including the form of the substance, characteristics and duration of the exposure, the uses of other eye protection equipment, and the hygiene of the lenses. However, there may be individual substances whose irritating or corrosive properties are such that the wearing of contact lenses would be harmful to the eye. In those specific cases, contact lenses should not be worn. In any event, the usual eye protection equipment should be worn even when contact lenses are in place.

As with all fires, evacuate personnel to a safe area. Firefighters should use self-contained breathing equipment and protective clothing.

As a general rule, when handling USP Reference Standards avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Wash thoroughly after handling.

/Wear/ chemically compatible gloves /and/ safety glasses or goggles. Protect exposed skin.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Separated from strong oxidants.

Glycerol should preferably be stored at 40 - 60 °C under nitrogen blanketing. It is not corrosive and presents little risk of ignition because of its high flash point. Highly concentrated glycerol does not corrode steel, but storage tanks of carbon steel must be protected by surface coating to prevent rusting by residual moisture. Glycerol is therefore usually stored in tanks of stainless steel or aluminum.

Glycerin oral solution should be stored in tight containers at a temp less than 40 °C, preferably between 15-30 °C; freezing should be avoided. Glycerin ophthalmic soln should be protected from light and stored in tight glass or plastic containers. The ophthalmic soln should be ... discarded 6 mo after the dropper is first placed in the soln.

Glycerin rectal suppositories should preferably be stored at less than 25 °C.

Store container tightly closed. Store at room temperature: 15 deg - 30 °C (59 deg - 86 °F). Do not exceed 30 °C (86 deg F).

For more Storage Conditions (Complete) data for GLYCERIN (7 total), please visit the HSDB record page.

7.2 Conditions for safe storage, including any incompatibilities

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Store away from incompatible materials (see Section 10).

[Note: Specific storage temperature not available in public databases. Refer to supplier Certificate of Analysis (COA) for exact storage conditions.]

Store in original container. Keep upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure controls

8.1.1 Occupational exposure limits (OEL)

(inhalable fraction): 200 mg/m

8.1.2 Appropriate engineering controls

Use in a well-ventilated area. Chemical fume hood recommended for powder handling.

8.2 Individual protection measures

8.2.1 Eye/face protection

Wear safety glasses with side shields.

8.2.2 Skin protection

Wear protective gloves. Recommended material: Nitrile rubber.

Wear suitable protective clothing (lab coat).

8.2.3 Respiratory protection

Respiratory protection usually not required under normal use with adequate ventilation.

Use N95 respirator for large-scale powder handling.

8.2.4 Thermal hazards

Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance: Glycerine appears as a colorless to brown colored liquid. Combustible but may require some effort to ignite.

b) Odor: MILD ODOR

c) Odor threshold: No data available

d) pH: Neutral to litmus

e) Melting point/freezing point: 64 °F (NTP, 1992)

- f) Initial boiling point and boiling range: 554 °F at 760 mmHg (decomposes) (NTP, 1992)
- g) Flash point: 320 °F (NTP, 1992)
- h) Evaporation rate: No data available
- i) Flammability (solid, gas): No data available
- j) Upper/lower flammability or explosive limits: No data available
- k) Vapor pressure: 0.0025 mmHg at 122 °F ; 40 mmHg at 388 °F (NTP, 1992)
- l) Vapor density: No data available
- m) Relative density: 1.261 at 68 °F (USCG, 1999) - Denser than water; will sink
- n) Water solubility: greater than or equal to 100 mg/mL at 64 °F (NTP, 1992)
- o) Partition coefficient: n-octanol/water: Log P: No data available
- p) Auto-ignition temperature: 698 °F (USCG, 1999)
- q) Decomposition temperature: No data available
- r) Viscosity: 954 CENTIPOISES AT 25 °C; 17 CENTIPOISES AT 25 °C (70% SOLN)
- s) Explosive properties: No data available
- t) Oxidizing properties: No data available

9.2 Other information

10. STABILITY AND REACTIVITY

10.1 Reactivity

No specific reactivity hazards identified under normal handling conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions under normal conditions.

10.4 Conditions to avoid

Avoid heat, sparks, open flames, direct sunlight, and moisture.

10.5 Incompatible materials

Exothermic interaction of granular /sodium/ hydride with undiluted (viscous) glycerol with inadequate stirring caused charring to occur.

Can react violently with acetic anhydride, aniline + nitrobenzene, $\text{Ca}(\text{OCl})_2$, CrO_3 , Cr_2O_3 , $\text{F}_2 + \text{PbO}$, phosphorus triiodide, ethylene oxide + heat, KMnO_4 , K_2O_2 , AgClO_4 , Na_2O_2 , NaH . Energetic reaction with sodium hydroxide.

Strong oxidizers (e.g., chromium trioxide, potassium chlorate, potassium permanganate) [Note: Hygroscopic (i.e., absorbs moisture from the air)].

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10.6 Hazardous decomposition products

No data available.

See also Section 5 (Fire-fighting measures) for combustion products.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

No acute toxicity data available.

Skin corrosion/irritation:

No data available.

Serious eye damage/eye irritation:

No data available.

Respiratory or skin sensitization:

No data available.

Germ cell mutagenicity:

No data available.

Carcinogenicity:

No data available.

Reproductive toxicity:

No data available.

Specific target organ toxicity (single exposure):

No data available.

Specific target organ toxicity (repeated exposure):

No data available.

Aspiration hazard:

No data available.

11.2 Additional information

Carcinogen classification:

No indication of carcinogenicity to humans (not listed by IARC).

Exposure routes:

inhalation, skin and/or eye contact

Signs and symptoms of exposure:

Dry skin.

Diarrhoea.

irritation eyes, skin, respiratory system; headache, nausea, vomiting; kidney injury

Data source: Hazardous Substances Data Bank (HSDB) via PubChem.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity threshold (cell multiplication inhibition test) Algae (*Microcystis aeruginosa*) 2900 mg/l

Toxicity threshold (cell multiplication inhibition test) Protozoa (*Entosiphon sulcatum*) 3200 mg/l

LC50; Species: Goldfish; Concentration: >5000 mg/L for 24 hr - modified ASTM D 1345

LC50; Species: *Daphnia magna* (Water flea, age < or = 24 hr); Conditions: freshwater, static, 20-22 °C;
Concentration: >10000 mg/L for 24 hr /formulated product/

Glycerin's production and use in industrial, cosmetic, food, pharmaceutical and domestic products may result in its release to the environment through various waste streams. Glycerin was reported present in Cork Oak, *Quercus*

suber L. If released to air, a vapor pressure of 1.68×10^{-4} mm Hg at 25 °C indicates glycerin will exist in both the vapor and particulate phases in the atmosphere. Vapor-phase glycerin will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 7 hours. Particulate-phase glycerin will be removed from the atmosphere by wet or dry deposition. Glycerin does not contain chromophores that absorb at wavelengths >290 nm, and therefore is not expected to be susceptible to direct photolysis by sunlight. If released to soil, glycerin is expected to have very high mobility based upon an estimated Koc of 1. Volatilization from moist soil surfaces is not expected to be an important fate process based upon a Henry's Law constant of 1.73×10^{-8} at

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available.

12.6 Other adverse effects

No other adverse ecological effects identified.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste Treatment Methods: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers and do not mix with other waste. Handle uncleaned containers in the same manner as the product itself.

14. TRANSPORT INFORMATION

14.1 UN number

Not regulated as dangerous goods (research quantities typically exempt).

14.2 UN proper shipping name

Not subject to transport regulations (small quantities for research use).

14.3 Transport hazard class(es)

Not classified as dangerous goods for transport (research quantities).

14.4 Packing group

Not applicable (not regulated as dangerous goods in typical research quantities).

14.5 Environmental hazards

Marine pollutant: No (not classified as environmentally hazardous per GHS).

14.6 Special precautions for user

Transport in original packaging. Ensure containers are tightly sealed.

For bulk or commercial quantities, consult applicable transport regulations (DOT, IATA, IMDG).

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

US EPA / TSCA: Subject to EPA TSCA regulations

EU ECHA / REACH: Registered (REACH Active)

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards:

No SARA Hazards.

Massachusetts Right To Know Components:

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components:

No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know Components:

No components are subject to the New Jersey Right to Know Act.

California Prop. 65 Components:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Other regulatory listings:

- The Australian Inventory of Industrial Chemicals: Chemical: 1,2,3-Propanetriol
- EFSA Legal Basis: Commission Regulation (EU) No 231/2012 (amended)
- EFSA Legal Basis: Regulation (EC) No 1333/2008 (amended)
- Atmospheric Standards: This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to us
- FIFRA Requirements: Residues resulting from the use of the following substances as either an inert or an active ingredient in a pesticide chemical formulation, including antimicrobial pesticide chemicals, are exempted from the requirement of a tolerance under FFDCA section 408, if such use is in accordance with good ag

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this substance.

For research-use-only compounds, no CSA is required under REACH Annex I.

16. OTHER INFORMATION

Revision Date: 2026/09/09

Further Information: The information provided is believed to be correct but is not exhaustive and should be used only as a guideline based on current knowledge. It does not represent a guarantee of the properties of the product. Selleck Chemicals Corporation and its Affiliates shall not be held liable for any damage resulting from handling or contact with the product.