

SAFETY DATA SHEET



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GLYCEROL

SDS No. M0115

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Glycerol

Synonyms: 1,2,3-propanetriol; glycerin; glycol alcohol; glycerol, anhydrous

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. HAZARDS IDENTIFICATION



Label Elements

Signal Word: WARNING!

Hazard Statements:

H316 – Causes mild skin irritation.

H320 – Cause eye irritation.

H333 – May be harmful if inhaled.

Precautionary Statements:

P281 – Use personal protective equipment as required.

P302+P352 – If on skin: Wash with soap and water.

Emergency Overview

May cause irritation to eyes, skin, and respiratory tract. Not expected to be hazardous in a normal industrial setting.

HMIS Rating:

Health – 1* Flammability – 0 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Glycerol	56-81-5	60-100%	Yes

Clear focus. Consistent results. Complete confidence.

4. FIRST-AID MEASURES

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Ingestion: Do not induce vomiting unless directed by medical personnel. If vomiting occurs naturally, have victim lean forward. If conscious and alert, give 2-3 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Skin Contact: Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: Low fire hazard

Auto-ignition Temperature: 400° C (752° F)

Flash Point: 193° C (379° F)

Flammable Limits: Not available

Products of Combustion: May decompose into irritating and highly toxic gases under fire conditions (carbon monoxide, carbon dioxide).

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors are heavier than air and can spread along the ground and collect in low or confined areas.

Specific Explosion Hazards: No information available..

Fire Fighting Media: Use water spray to cool fire exposed containers. Use agent most appropriate for extinguishing fire. Use dry chemical, carbon dioxide, water spray, or appropriate foam.

National Fire Protective Association: Health - 1, Flammability - 1, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Use spark-proof tools. Provide ventilation to the affected area and remove all ignition sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. No special precautions indicated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne

concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles or other appropriate eye protection. Use butyl rubber gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits:

ACGIH – 10 mg/m³ TWA

NIOSH – None

OSHA Final PELs – 15 mg/m³ TWA (total); 5 mg/m³ TWA (respirable fraction);

OSHA Vacated PELs: 10 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: Faint odor

Molecular Formula: HOCH₂CH(OH)CH₂OH

Molecular Weight: 92.09

Auto-ignition Temperature: 400° C (752° F)

Flash Point: 193° C (379° F)

Flammable Limits: Not available

pH: Not available

Boiling Point: 290° C @ 760 mm Hg

Freezing/Melting Point: -6.7° C

Decomposition Temperature: 290° C

Specific Gravity: 1.4746 g/cm³

Vapor Density (Water=1): 3.17

Vapor Pressure: 0.003 mbar @ 20° C.

Evaporation Rate (Butyl acetate = 1): Not available.

Viscosity: Not available.

Solubility: Miscible in water. Insoluble in chloroform.

Conductivity (25°C): Conductive; Conductivity = 6.4x10⁶ pS/m; Dielectric Constant = 42.5; Relaxation Time Constant = 5.9x10⁻⁵ seconds

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Incompatible materials, ignition sources, excess heat.

Incompatibility With Various Substances: Not available.

Hazardous Decomposition Products: Irritating and toxic fumes and gases, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: Low hazard in a normal industrial setting. Inhalation of mist may cause respiratory tract irritation.

INGESTION HAZARD: Ingestion of large amounts may cause gastrointestinal irritation. Low hazard in a normal industrial setting. May cause headache.

SKIN CONTACT HAZARD: May cause skin irritation. Not expected to be hazardous in a normal industrial setting.

EYE CONTACT HAZARD: May cause eye irritation.

Chronic Exposure Hazards: No information found.

Animal Toxicity:

Draize test, rabbit, eye: 126 mg Mild

Draize test, rabbit, eye: 500 mg/24H Mild
Draize test, rabbit, skin: 500 mg/24H Mild
Inhalation, rat: LC50 = > 500 mg/m³/1H;
Oral, mouse: LD50 = 4090 mg/kg;
Oral, rabbit: LD50 = 27 g/kg;
Oral, rat: LD50 = 12,600 mg/kg;
Skin, rabbit: LD50 = >10 mg/kg;

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity: LC50, 96H, Rainbow trout = 50-67 mg/L; 12 degrees CLC50 (96H) goldfish = >5000 mg/L.

Environmental Fate: No information available.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

Not regulated for transportation.

15. REGULATORY INFORMATION

US Federal Regulations:

CERCLA Hazardous Substances: CAS# 56-81-5 does not have an RQ

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 56-81-5 – delayed

Section 313: Glycerol (56-81-5) is not subject to SARA Title III requirements.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 56-81-5 is on the following state right-to-know lists: Pennsylvania, Minnesota, and Massachusetts

California Prop 65: This product contains no chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

16. OTHER INFORMATION

Originally Prepared: 1/1/2006

Last Revised: 9/26/2014 – Reviewed, no changes made.

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