

# MALLINCKRODT

## Material Safety Data Sheet

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Emergency Telephone Number: 314-982-5000

### GLYCEROL

#### PRODUCT IDENTIFICATION:

Synonyms: 1,2,3-propanetriol; glycerin

Formula CAS No.: 56-81-5

Molecular Weight: 92.09

Chemical Formula:  $C_3H_5(OH)_3$

Hazardous Ingredients: Glycerol

#### PRECAUTIONARY MEASURES

Handle very carefully.

Heat of decomposition may ignite flammables.

#### EMERGENCY/FIRST AID

SEE SECTION 5.

DOT Hazard Class: Not Regulated

#### SECTION 1 Physical Data

Appearance: Colorless oily liquid.

Odor: Odorless.

Solubility: Miscible with water.

Boiling Point: 290°C (554°F).

Melting Point: 18°C (64.4°F).

Specific Gravity: 1.25

Vapor Density (Air = 1): 3.17

Vapor Pressure (mm Hg): 0.0025 @ 50°C (122°F).

Evaporation Rate: No information found.

#### SECTION 2 Fire and Explosion Information

##### Fire:

Slight fire hazard when exposed to heat or flame. Flashpoint: 160°C (320°F) (CC).

Autoignition temperature: 400°C (752°F).

Explosive limits: volume % in air:

lcl: 0.9; ucl: unknown.

##### Explosion:

Above flash point, vapor-air mixtures are explosive within flammable limits noted above.

##### Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

##### Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

#### SECTION 3 Reactivity Data

##### Stability:

Stable under ordinary conditions of use and storage.

##### Hazardous Decomposition Products:

Toxic gases and vapors may be released if involved in a fire. Glycerol decomposes upon heating above 290°C, forming corrosive gas (acrolein).

##### Hazardous Polymerization:

This substance does not polymerize.

##### Incompatibilities:

Strong oxidizers.

Can react violently with acetic anhydride, calcium oxchloride, chromium oxides and alkali metal hydrides.

#### SECTION 4 Leak/Spill Disposal Information

Ventilate area of leak or spill. Clean-up personnel may require protective clothing.

Absorb liquid spills with a dry absorbent. Containerize unusable material for disposal in an approved waste facility.

Ensure compliance with local, state and federal regulations.

NFPA Ratings: Health: 1 Flammability: 1 Reactivity: 0

Effect Date: 04-06-89 Supersedes 01-03-86

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**SECTION 5 Health Hazard Information**

**A. EXPOSURE / HEALTH EFFECTS**

**Inhalation:**

Due to the low vapor pressure, inhalation of the vapors at room temperatures is unlikely. Inhalation of mist may cause irritation of respiratory tract.

**Ingestion:**

Low toxicity. May cause nausea, headache, diarrhea.

**Skin Contact:**

May cause irritation.

**Eye Contact:**

May cause irritation.

**Chronic Exposure:**

May cause kidney injury.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

**B. FIRST AID**

**Inhalation:**

Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:**

Give water to rinse mouth and get medical attention immediately. Never give anything by mouth to an unconscious person.

**Skin Exposure:**

Remove any contaminated clothing. Wash skin with plenty of water for at least 15 minutes. If irritation develops, get medical attention.

**Eye Exposure:**

Wash thoroughly with running water. Get medical advice if irritation develops.

**C. TOXICITY DATA** (RTECS, 1986)

Oral rat LD50: 12,600 mg/kg. Oral mouse LD50: 26,000 mg/kg. Aquatic toxicity rating, TLM96: over 1000 ppm.

**SECTION 6 Occupational Control Measures**

**Airborne Exposure Limits:**

-OSHA Permissible Exposure Limit (PEL):  
10 mg/m<sup>3</sup> total dust, 5 mg/m<sup>3</sup> respirable fraction for glycerine (mists) -ACGIH Threshold Limit Value (TLV):  
10 mg/m<sup>3</sup> for glycerin mist containing no asbestos and < 1% free silica

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. 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. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

**Personal Respirators: (NIOSH Approved)**

If the TLV is exceeded, a half mask chemical cartridge respirator may be worn up to ten times the TLV or the maximum use concentration specified by the respirator supplier, whichever is less.

**Skin Protection:**

Wear protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

**SECTION 7 Storage and Special Information**

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Separate from incompatibilities.

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