

MATERIAL SAFETY DATA SHEET

Chemical Product

Product Name: 1-THIOGLYCEROL

CAS#: 96-27-5

Synonym: Thiovanol; 3-Mercapto-1,2-propanediol; 1-Mercapto-2,3-propanediol; 1-Mercaptoglycerol; 1- Thioglycerol; alpha-Monothioglycerol; alpha-Thioglycerol; Monothioglycerin; Thioglycerin; Thioglycerol.

Chemical Name: 1,2-Propanediol, 3-mercapto-

Chemical Formula: C3-H8-O2-S

Composition and Information on Ingredients

Name	S.K.U	% by Weight
Thioglycerol	GCS-6078	100

Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of inhalation. Slightly hazardous in case of ingestion.

Potential Chronic Health Effects:

Hazardous in case of skin contact (permeator). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available.

First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. WARM water MUST be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: CLOSED CUP: >112.78°C (235°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards:

When heated to decomposition it emits toxic fumes. Container may rupture from gas generation during a fire situation. Violent stream generation or eruption may occur upon application of direct water stream to hot liquids.

Special Remarks on Explosion Hazards: Not available.

Accidental Release Measures

Small Spill:

Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids.

Storage:

Keep container tightly closed. Keep container in a cool, well-ventilated area.

Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Physical and Chemical Properties

Physical state and appearance:

Liquid. (Viscous liquid.)

Odor:

Sulfidic (Slight.)

Taste:	Not available.
Molecular Weight:	108.15 g/mole
Color:	Colorless to light yellow.
pH (1% soln/water):	Not available.
Boiling Point:	118°C (244.4°F)
Melting Point:	Not available.
Critical Temperature:	Not available.
Specific Gravity:	1.295 (Water = 1)
Vapor Pressure:	Not applicable.
Vapor Density:	Not available.
Volatility:	Not available.
Odor Threshold:	Not available.
Water/Oil Dist. Coeff.:	Not available.
Ionicity (in Water):	Not available.
Dispersion Properties:	See solubility in water, acetone.
Solubility: Easily soluble in acetone. Slightly soluble in cold water. Insoluble in diethyl ether. Slightly soluble in benzene. Miscible with alcohol.	

Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat (Avoid temperatures above 120 C. Product can decompose at elevated temperatures), incompatible materials.

Incompatibility with various substances: Reactive with oxidizing agents, metals, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Avoid contact with oxidizing materials. Reactions with oxidizers can be violent. Avoid contact with metals such as carbon steel. Avoid unintended contact with strong acids.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Toxicological Information

Routes of Entry:

Absorbed through skin. Dermal contact. Eye contact. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 670 mg/kg [Rat]. Acute dermal toxicity (LD50): 699.3 mg/kg [Rabbit].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant, permeator), of inhalation. Slightly hazardous in

case of ingestion.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

May affect genetic material (mutagenic). May cause adverse reproductive effects based on animal test data. No human data Found

Special Remarks on other Toxic Effects on Humans:

Potential Health Effects: Skin: Prolonged or repeated exposure may cause severe skin irritation. A single prolonged exposure may result in the material being absorbed in harmful amounts. Prolonged or repeated skin contact which causes the material to be absorbed through the skin may affect the thyroid. Eyes: May cause moderate eye irritation. Corneal injury is unlikely. Inhalation: Mists may cause irritation of the upper respiratory tract (nose and throat). Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Ingestion: Single dose oral toxicity is considered to be low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. May cause nausea and vomiting. May affect behavior/central nervous system (convulsions, ataxia). Prolonged or repeated ingestion may affect thyroid.

Toxicological Data on Ingredients: thioglycerol: ORAL (LD50): Acute: 670 mg/kg [Rat].
DERMAL (LD50): Acute: 699.3mg/kg [Rabbit].

Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Transformation Information

Land transport (ADR-RID)

Proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S.

UN N°: 2810

H.I. nr: 60

ADR - Class: 6.1

ADR - Group: III

Sea transport (IMDG) [English only]

Proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S.

UN N°: 2810

IMO-IMDG - Class or division: 6.1: Toxic substances.

IMO-IMDG - Packing group: III

Air transport (ICAO-IATA) [English only]

Proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S.

UN N°: 2810

IATA - Class or division: 6.1: Toxic substances.

IATA - Packing group: III

Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Monothioglycerol

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC).

DSCL (EEC):

R21/22- Harmful in contact with skin and if swallowed. R36/38- Irritating to eyes and skin. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.



Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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