

# SAFETY DATA SHEET

## 1. PRODUCT

### 1.1 Product identifiers

Name: 1-Thioglycerol

CAS-No.: 96-27-5

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Dermal (Category 3), H311


Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 GHS Label elements, including precautionary statements

|                            |  |
|----------------------------|--|
| Pictogram                  |   |
| Signal word                | Danger   |
| Hazard statement(s)        | H302 Harmful if swallowed.<br>H311 Toxic in contact with skin.<br>H315 Causes skin irritation.<br>H319 Causes serious eye irritation.<br>H335 May cause respiratory irritation.  |
| Precautionary statement(s) | P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.<br>P264 Wash skin thoroughly after handling.<br>P270 Do not eat, drink or smoke when using this product.<br>P271 Use only outdoors or in a well-ventilated area.<br>P280 Wear protective gloves/ eye protection/ face protection.<br>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.<br>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.<br>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.<br>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P312 Call a POISON CENTER or doctor/ physician if you feel unwell.<br>P322 Specific measures (see supplemental first aid instructions on this label).<br>P330 Rinse mouth.<br>P332 + P313 If skin irritation occurs: Get medical advice/ attention.<br>P337 + P313 If eye irritation persists: Get medical advice/ attention.<br>P361 Remove/ Take off immediately all contaminated clothing.<br>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.<br>P405 Store locked up.<br>P501 Dispose of contents/ container to an approved waste disposal plant. |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

|           |  |
|-----------|--|
| Synonyms: | -Thioglycerol<br>3-Mercapto-1,2-propanediol<br>-Monothioglycerol |
| Formula:  | C <sub>3</sub> H <sub>8</sub> O <sub>2</sub> S                   |
| CAS-No.:  | 96-27-5  |
| EC-No.:   | 202-495-0  |

#### Hazardous components

| Component                         | Classification   | Concentration |
|-----------------------------------|--|---------------|
| <b>3-Mercaptopropane-1,2-diol</b> | Acute Tox. 4; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2A;<br>STOT SE 3; H302, H311, H315, H319, H335 | -             |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

|   |
|---|
| <b>General advice</b>   |
| Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.       |
| <b>If inhaled</b>   |
| If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| <b>In case of skin contact</b>  |
| Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.               |
| <b>In case of eye contact</b>   |
| Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.                          |
| <b>If swallowed</b>   |
| Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.             |

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.2 Indication of any immediate medical attention and special treatment needed

no data available

## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, Sulphur oxides

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

no data available

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel

to safe areas.

For personal protection see section 8.

## 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

## 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

## 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature: 2 - 8 °C

Hygroscopic. Store under inert gas. Air sensitive.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

|                     |  |
|---------------------|--|
| Eye/face protection | Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
|---------------------|--|

|                                   |   |
|-----------------------------------|---|
| Skin protection                   | <p>Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.</p> <p>Full contact<br/>Material: Nitrile rubber<br/>Minimum layer thickness: 0.4 mm<br/>Break through time: 480 min<br/>Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)</p> <p>Splash contact<br/>Material: Nitrile rubber<br/>Minimum layer thickness: 0.2 mm<br/>Break through time: 30 min<br/>Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)<br/>data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374</p> <p>If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.</p> |
| Body Protection                   | Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.   |
| Respiratory protection            | Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).   |
| Control of environmental exposure | Prevent further leakage or spillage if safe to do so. Do not let product enter drains.  |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|  |   |
|--|---|
| Appearance                                   | Form: clear, viscous liquid<br>Colour: colourless |
| Odour  | Stench.   |
| Odour Threshold                              | no data available                                 |
| pH   | no data available                                 |
| Melting point/freezing point                 | no data available                                 |
| Initial boiling point and boiling range      | 118 °C (244 °F) at 7 hPa (5 mmHg)                 |
| Flash point                                  | 113 °C (235 °F) - closed cup                      |
| Evaporation rate                             | no data available                                 |
| Flammability (solid, gas)                    | no data available                                 |
| Upper/lower flammability or explosive limits | no data available                                 |
| Vapour pressure                              | no data available                                 |
| Vapour density                               | no data available                                 |
| Relative density                             | 1.247 g/cm <sup>3</sup>                           |
| Water solubility                             | no data available                                 |
| Partition coefficient: n-octanol/water       | no data available                                 |
| Auto-ignition temperature                    | no data available                                 |
| Decomposition temperature                    | no data available                                 |
| Viscosity                                    | no data available                                 |
| Explosive properties                         | no data available                                 |
| Oxidizing properties                         | no data available                                 |

### 9.2 Other safety information

no data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Air sensitive.

### 10.5 Incompatible materials

Bases, Oxidizing agents, Reducing agents, Alkali metals

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

|   |
|---|
| <b>Acute toxicity</b>   |
| LD50 Oral - rat - 645 mg/kg<br>Inhalation: no data available<br>LD50 Dermal - rabbit - 670 mg/kg<br>no data available   |
| <b>Skin corrosion/irritation</b>  |
| no data available   |
| <b>Serious eye damage/eye irritation</b>  |
| no data available   |
| <b>Respiratory or skin sensitisation</b>  |
| no data available   |
| <b>Germ cell mutagenicity</b>   |
| no data available   |
| <b>Carcinogenicity</b>  |
| IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.<br>ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.<br>NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.<br>OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
| <b>Reproductive toxicity</b>  |
| no data available<br>Reproductive toxicity - Hamster - Subcutaneous<br>Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count). Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).   |
| <b>Specific target organ toxicity -single exposure</b>  |
| no data available   |
| <b>Specific target organ toxicity -repeated exposure</b>  |
| no data available   |
| <b>Aspiration hazard</b>  |
| no data available   |
| <b>Additional Information</b>   |
| RTECS: TY8140000<br>Cough, Shortness of breath, Headache, Nausea, Vomiting  |

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

no data available

## 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 as chemical safety assessment not required/not conducted

## 12.6 Other adverse effects

no data available

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

| Product  |
|--|
| Contact a licensed professional waste disposal service to dispose of this material. Offer surplus and non-recyclable solutions to a licensed disposal company. |
| Contaminated packaging   |
| Dispose of as unused product.  |

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 2810 Class: 6.1 Packing group: III

Proper shipping name: Toxic, liquids, organic, n.o.s. (3-Mercaptopropane-1,2-diol)

Reportable Quantity (RQ):

Marine pollutant: No

Poison Inhalation Hazard: No

### IMDG

UN number: 2810 Class: 6.1 Packing group: III EMS-No: F-A, S-A

Proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S. (3-Mercaptopropane-1,2-diol)

Marine pollutant: No

### IATA

UN number: 2810 Class: 6.1 Packing group: III

Proper shipping name: Toxic liquid, organic, n.o.s. (3-Mercaptopropane-1,2-diol)

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## 15. REGULATORY INFORMATION

### SARA 302 Components

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

### SARA 313 Components

SARA 313: 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

Acute Health Hazard

## Massachusetts Right To Know Components

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

## Pennsylvania Right To Know Components

| Component                  | CAS-No. | Revision Date |
|----------------------------|---------|---------------|
| 3-Mercaptopropane-1,2-diol | 96-27-5 |               |

## New Jersey Right To Know Components

| Component                  | CAS-No. | Revision Date |
|----------------------------|---------|---------------|
| 3-Mercaptopropane-1,2-diol | 96-27-5 |               |

## California Prop. 65 Components

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

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## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

Acute Tox. Acute toxicity

Eye Irrit. Eye irritation

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Skin Irrit. Skin irritation

### HMIS Rating

Health hazard: 2

Chronic Health Hazard:

Flammability: 1

Physical Hazard 0

### NFPA Rating

Health hazard: 2

Fire Hazard: 1

Reactivity Hazard: 0

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