

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Glycerol

Product Number : G7893  
Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Target Organ Effect

##### Target Organs

Kidney

##### GHS Classification

Skin irritation (Category 3)

Eye irritation (Category 2B)

##### GHS Label elements, including precautionary statements

Pictogram none

Signal word Warning

##### Hazard statement(s)

H316 Causes mild skin irritation.

H320 Causes eye irritation.

##### Precautionary statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### HMIS Classification

Health hazard: 0

Chronic Health Hazard: \*

Flammability: 1

Physical hazards: 0

#### NFPA Rating

Health hazard: 0

Fire: 1

Reactivity Hazard: 0

## Potential Health Effects

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | May be harmful if inhaled. May cause respiratory tract irritation.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |
| <b>Ingestion</b>  | May be harmful if swallowed.  |

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 1,2,3-Propanetriol  
Glycerin

Formula : C<sub>3</sub>H<sub>8</sub>O<sub>3</sub>  
Molecular Weight : 92.09 g/mol

| Component        | Concentration |
|------------------|---------------|
| <b>Glycerol</b>  |               |
| CAS-No. 56-81-5  | -             |
| EC-No. 200-289-5 |               |

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## 4. FIRST AID MEASURES

### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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## 5. FIREFIGHTING MEASURES

### Conditions of flammability

Not flammable or combustible.

### Suitable extinguishing media

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

### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

### Environmental precautions

Do not let product enter drains.

### 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.

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

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

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

| Components | CAS-No.  | Value | Control parameters   | Basis  |
|------------|--|-------|----------------------|--|
| Glycerol   | 56-81-5  | TWA   | 10 mg/m <sup>3</sup> | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                    |
|            |  | TWA   | 5 mg/m <sup>3</sup>  | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                    |
|            |  | TWA   | 10 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV)  |
| Remarks    | Upper Respiratory Tract irritation                   |       |                      |  |
|            |  | TWA   | 15 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|            |  | TWA   | 5 mg/m <sup>3</sup>  | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|            | See Appendix D - Substances with No Established RELs |       |                      |  |

**Personal protective equipment****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).

**Hand protection**

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.

## Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

## Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

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.

**Eye protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

|        |        |
|--------|--------|
| Form   | liquid |
| Colour | clear  |

### Safety data

|  |  |
|--|--|
| pH                                     | 5.5 - 8                                    |
| Melting point/freezing point           | Melting point/range: 20 °C (68 °F)         |
| Boiling point                          | 182 °C (360 °F) at 27 hPa (20 mmHg)        |
| Flash point                            | 160 °C (320 °F) - closed cup               |
| Ignition temperature                   | 370 °C (698 °F)                            |
| Auto-ignition temperature              | no data available                          |
| Lower explosion limit                  | 0.9 %(V)                                   |
| Vapour pressure                        | 0.0033 hPa (0.0025 mmHg) at 50 °C (122 °F) |
| Density                                | 1.25 g/mL                                  |
| Water solubility                       | soluble                                    |
| Partition coefficient: n-octanol/water | no data available                          |
| Relative vapour density                | 3.18<br>- (Air = 1.0)                      |
| Odour                                  | odourless                                  |
| Odour Threshold                        | no data available                          |
| Evaporation rate                       | no data available                          |

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

Strong bases, Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

LD50 Oral - rat - 12,600 mg/kg

#### Inhalation LC50

no data available

**Dermal LD50**

LD50 Dermal - rabbit - > 10,000 mg/kg

**Other information on acute toxicity**

no data available

**Skin corrosion/irritation**

Skin - rabbit - Mild skin irritation - 24 h

**Serious eye damage/eye irritation**

Eyes - rabbit - Mild eye irritation - 24 h

**Respiratory or skin sensitisation**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

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.

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.

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.

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.

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

|                   |   |
|-------------------|---|
| <b>Inhalation</b> | May be harmful if inhaled. May cause respiratory tract irritation.  |
| <b>Ingestion</b>  | May be harmful if swallowed.  |
| <b>Skin</b>       | May be harmful if absorbed through skin. May cause skin irritation. |
| <b>Eyes</b>       | May cause eye irritation.   |

**Signs and Symptoms of Exposure**

Prolonged or repeated exposure may cause:, Nausea, Headache, Vomiting

**Synergistic effects**

no data available

**Additional Information**

RTECS: MA8050000

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**12. ECOLOGICAL INFORMATION**

**Toxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

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**13. DISPOSAL CONSIDERATIONS****Product**

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)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

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**15. REGULATORY INFORMATION****OSHA Hazards**

Target Organ Effect

**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**

Chronic Health Hazard

**Massachusetts Right To Know Components**

Glycerol

CAS-No.  
56-81-5

Revision Date  
2007-03-01

**Pennsylvania Right To Know Components**

Glycerol

CAS-No.  
56-81-5

Revision Date  
2007-03-01

**New Jersey Right To Know Components**

Glycerol

CAS-No.  
56-81-5

Revision Date  
2007-03-01

**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

### **Further information**

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