

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name : 1,2-Propanediol  
  
Product Number : 398039  
Brand : Sigma-Aldrich  
  
CAS-No. : 57-55-6

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

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

#### 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Not a hazardous substance or mixture.

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

Not a hazardous substance or mixture.

#### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Synonyms : Propylene glycol  
  
Formula : C<sub>3</sub>H<sub>8</sub>O<sub>2</sub>  
Molecular weight : 76.09 g/mol  
CAS-No. : 57-55-6  
EC-No. : 200-338-0  
Registration number : 01-2119456809-23-XXXX

#### Hazardous components

Component	Classification	Concentration
<b>Propane-1,2-diol</b>		90 - 100 %

---

#### 4. FIRST AID MEASURES

##### 4.1 Description of first aid measures

###### **If inhaled**

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

###### **In case of skin contact**

Wash off with soap and plenty of water.

###### **In case of eye contact**

Flush eyes with water as a precaution.

###### **If swallowed**

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

##### 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

##### 4.3 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

No data available

##### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

##### 5.4 Further information

No data available

---

#### 6. ACCIDENTAL RELEASE MEASURES

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

Avoid breathing vapours, mist or gas.  
For personal protection see section 8.

##### 6.2 Environmental precautions

No special environmental precautions required.

##### 6.3 Methods and materials for containment and cleaning up

Keep in suitable, closed containers for disposal.

##### 6.4 Reference to other sections

For disposal see section 13.

---

#### 7. HANDLING AND STORAGE

##### 7.1 Precautions for safe handling

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.

Hygroscopic. Light sensitive.

Storage class (TRGS 510): 10: Combustible liquids

##### 7.3 Specific end use(s)

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

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Propane-1,2-diol	57-55-6	TWA	10 mg/m <sup>3</sup>	USA. Workplace Environmental Exposure Levels (WEEL)

### 8.2 Exposure controls

#### Appropriate engineering controls

General industrial hygiene practice.

#### Personal protective equipment

##### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin 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: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

##### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (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.

##### 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.

##### Respiratory protection

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

No special environmental precautions required.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |                    |  |
|--------------------|--|
| a) Appearance      | Form: liquid, clear, viscous<br>Colour: colourless |
| b) Odour           | No data available                                  |
| c) Odour Threshold | No data available                                  |
| d) pH              | No data available                                  |

e) Melting point/freezing point	Melting point/range: -60 °C (-76 °F)
f) Initial boiling point and boiling range	187 °C (369 °F)
g) Flash point	103 °C (217 °F) - closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	Upper explosion limit: 12.5 %(V) Lower explosion limit: 2.6 %(V)
k) Vapour pressure	0.11 hPa (0.08 mmHg) at 20 °C (68 °F)
l) Vapour density	2.63 - (Air = 1.0)
m) Relative density	1.036 g/mL at 25 °C (77 °F)
n) Water solubility	soluble
o) Partition coefficient: n-octanol/water	log Pow: -0.8 at 25 °C (77 °F)
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

## 9.2 Other safety information

Relative vapour density 2.63 - (Air = 1.0)

---

## 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

Exposure to moisture

### 10.5 Incompatible materials

Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates, Reducing agents  
Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates, Reducing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

---

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 20,000 mg/kg

Inhalation: No data available

LD50 Dermal - Rabbit - 20,800 mg/kg

LD50 Intramuscular - Rat - 14 g/kg

LD50 Intravenous - Dog - 26 g/kg

LD50 Intraperitoneal - Rat - 6,660 mg/kg

LD50 Subcutaneous - Rat - 22,500 mg/kg

LD50 Intravenous - Rat - 6,423 mg/kg

LD50 Intraperitoneal - Mouse - 9,718 mg/kg

Remarks: Lungs, Thorax, or Respiration:Chronic pulmonary edema. Kidney, Ureter, Bladder:Changes in both tubules and glomeruli. Blood:Changes in spleen.

LD50 Subcutaneous - Mouse - 17,370 mg/kg

Remarks: Behavioral:Change in motor activity (specific assay). Behavioral:Muscle contraction or spasticity. Cyanosis

LD50 Intravenous - Mouse - 6,630 mg/kg

LD50 Intravenous - Rabbit - 6,500 mg/kg

#### **Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation - 4 h  
(OECD Test Guideline 404)

#### **Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Mild eye irritation

#### **Respiratory or skin sensitisation**

No data available

#### **Germ cell mutagenicity**

No data available

#### **Carcinogenicity**

No data available

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.

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 on OSHA's list of regulated carcinogens.

#### **Reproductive toxicity**

No data available

#### **Specific target organ toxicity - single exposure**

No data available

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

#### **Additional Information**

RTECS: TY2000000

Gastrointestinal disturbance, Nausea, Headache, Vomiting, Central nervous system depression, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

---

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish mortality NOEC - Pimephales promelas (fathead minnow) - 52,930 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates mortality NOEC - Daphnia (water flea) - 13,020 mg/l - 48 h

EC50 - Daphnia magna (Water flea) - > 10,000 mg/l - 48 h

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

---

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

---

14. TRANSPORT INFORMATION

**DOT (US)**

Not dangerous goods

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

---

15. REGULATORY INFORMATION

**SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

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**

No SARA Hazards

**Massachusetts Right To Know Components**

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

**Pennsylvania Right To Know Components**

Propane-1,2-diol

CAS-No.  
57-55-6

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.

---

## 16. OTHER INFORMATION

### Further information

Copyright 2016 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

### Preparation Information

Sigma-Aldrich Corporation

Product Safety – Americas Region

1-800-521-8956

Version: 4.16

Revision Date: 08/14/2018

Print Date: 11/10/2018