

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 2-Mercaptoethanol  
Product Number : M6250  
Brand : Sigma  
Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # : (314) 776-6555

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $C_2H_6OS$   
Molecular Weight : 78.13 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>2-Mercaptoethanol</b>			
60-24-2	200-464-6	-	-

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Combustible Liquid  
Toxic by inhalation.  
Toxic by ingestion  
Highly toxic by skin absorption  
Corrosive

#### HMIS Classification

Health Hazard: 3  
Flammability: 2  
Physical hazards: 1

#### NFPA Rating

Health Hazard: 3  
Fire : 2  
Reactivity Hazard: 1

#### Potential Health Effects

**Inhalation** Toxic if inhaled. Material is extremely destructive to the tissue of the mucous

**Skin**  
**Eyes**  
**Ingestion**

membranes and upper respiratory tract.  
Causes skin burns. May be fatal if absorbed through skin.  
Causes eye burns.  
Toxic if swallowed. Causes burns.

#### 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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

##### In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 5. FIRE-FIGHTING MEASURES

##### Flammable properties

Flash point 77 °C (171 °F) - closed cup

Ignition temperature 295 °C (563 °F) at 1,013 hPa (760 mmHg)

##### Suitable extinguishing media

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

##### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

##### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

##### Methods for cleaning up

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

#### 7. HANDLING AND STORAGE

##### Handling

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

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

##### Storage

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.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### 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.

#### Eye protection

Safety glasses

#### Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

#### Hygiene measures

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	liquid
Colour	colourless
Odour	Stench.

### Safety data

pH	4.0 - 6 at 20 °C (68 °F)
Melting point	< -50 °C (< -58 °F)
Boiling point	157 °C (315 °F)
Flash point	77 °C (171 °F) - closed cup
Ignition temperature	295 °C (563 °F) at 1,013 hPa (760 mmHg)
Lower explosion limit	2.3 %(V)
Upper explosion limit	18 %(V)
Vapour pressure	0.76 hPa (0.57 mmHg) at 20 °C (68 °F)
Density	1.1150 g/cm <sup>3</sup> 1.1140 g/cm <sup>3</sup>
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: -0.326
Relative vapour density	2.70 - (Air = 1.0)

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

**Materials to avoid**

Metals, Oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Sulphur oxides, Carbon oxides

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 244 mg/kg

LC50 Inhalation - rat - 4 h - 625 ppm

LD50 Dermal - rabbit - 168 - 200 mg/kg

**Irritation and corrosion**

Skin - rabbit - Extremely corrosive and destructive to tissue.

Eyes - rabbit - Severe eye irritation

**Sensitisation**

no data available

**Chronic exposure**

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.

**Signs and Symptoms of Exposure**

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Weakness, Unconsciousness, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema

**Potential Health Effects**

<b>Inhalation</b>	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Skin</b>	Causes skin burns. May be fatal if absorbed through skin.
<b>Eyes</b>	Causes eye burns.
<b>Ingestion</b>	Toxic if swallowed. Causes burns.

**12. ECOLOGICAL INFORMATION****Elimination information (persistence and degradability)**

Biodegradability Result: < 30.0 % - Not readily biodegradable.

Result: 6 % - Not readily biodegradable.

**Ecotoxicity effects**

Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - 46 - 100 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia - 1.52 mg/l - 48 h

Toxicity to algae EC50 - Scenedesmus subspicatus - 12 mg/l - 72 h

Toxicity to bacteria LC50 - Bacteria - 125 mg/l - 17 h

#### Further information on ecology

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

no data available

### 13. DISPOSAL CONSIDERATIONS

#### Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### DOT (US)

UN-Number: 2966 Class: 6.1 Packing group: II  
Proper shipping name: Thioglycol

#### IMDG

UN-Number: 2966 Class: 6.1 Packing group: II EMS-No: F-A, S-A  
Proper shipping name: THIOGLYCOL  
Marine pollutant: No

#### IATA

UN-Number: 2966 Class: 6.1 Packing group: II  
Proper shipping name: Thioglycol

### 15. REGULATORY INFORMATION

#### OSHA Hazards

Combustible Liquid, Toxic by inhalation., Toxic by ingestion, Highly toxic by skin absorption, Corrosive

#### TSCA Status

On TSCA Inventory

#### DSL Status

All components of this product are on the Canadian DSL list.

#### 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

Fire Hazard, Acute Health Hazard

#### Massachusetts Right To Know Components

2-Mercaptoethanol

CAS-No.  
60-24-2

Revision Date  
1991-07-01

**Pennsylvania Right To Know Components**

2-Mercaptoethanol

CAS-No.  
60-24-2

Revision Date  
1991-07-01

**New Jersey Right To Know Components**

2-Mercaptoethanol

CAS-No.  
60-24-2

Revision Date  
1991-07-01

**California Prop. 65 Components**

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

**16. OTHER INFORMATION**

**Further information**

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