1. PRODUCT AND COMPANY IDENTIFICATION

Product name: 2-Mercaptoethanol
Product Number: M7154
Brand: Sigma
Company: Sigma-Aldrich
3950 Squires Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-8082
Fax: +1 800-325-5052
Emergency Phone #: (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula: C2H4O2S
Molecular Weight: 78.13 g/mol
CAS-No.: EC-No.: Index-No.: Concentration: 
2-Mercaptoethanol: 60-24-2: 200-484-6: -: -:

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 inhalaed. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Eyes: Causes skin burns. May be fatal if absorbed through skin.
Ingestion: Causes eye 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 MPa (750 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 23 % (V)
Upper explosion limit 18 % (V)
Vapour pressure 0.76 hPa (0.57 mmHg) at 20 °C (68 °F)
Density 1.1150 g/cm3
1.1140 g/cm3
Water solubility soluble
Partition coefficient: log Pow: -0.326 n-octanol/water

10. STABILITY AND REACTIVITY

Storage stability
Stable under recommended storage conditions.

Materials to avoid
Metals, Oxidizing agents

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity
LD50 Oral - rat - 244 mg/kg
LD50 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, pneumonia, pulmonary edema

Potential Health Effects
Inhalation Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Skin Causes skin burns. May be fatal if absorbed through skin.

Eyes Causes eye burns.

Ingestion Toxic if swallowed. Causes burns.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)
Biodegradation Result: < 30.0 % - Not readily biodegradable.

Result: 6 % - Not readily biodegradable.

Ecotoxicity effects
Toxicity to fish LC50 - Leuciscus idus (Gelsom ofro) - 46 - 100 mg/l - 96 h
Toxicity to daphnia EC50 - Daphnia - 5.52 mg/l - 48 h
and other aquatic invertebrates.
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: 2986 Class: 6.1
Proper shipping name: Thioglycol
Packing group: II

IMDG
UN-Number: 2986 Class: 6.1
Proper shipping name: THIOGLYCOL
Marine pollutant: No

IATA
UN-Number: 2986 Class: 6.1
Proper shipping name: Thioglycol
Packing group: II

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

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Pennsylvania Right To Know Components

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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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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 Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.