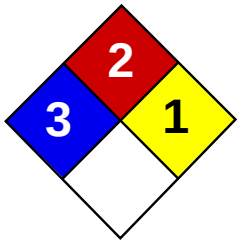

Health	3
Fire	2
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
2-Mercaptoethanol MSDS

Section 1: Chemical Product and Company Identification

Product Name: 2-Mercaptoethanol

Catalog Codes: SLM1342

CAS#: 60-24-2

RTECS: KL5600000

TSCA: TSCA 8(b) inventory: 2-Mercaptoethanol

CI#: Not available.

Synonym: 1-Ethanol-2-thiol; 2-Hydroxy-1-ethanethiol; 2-Hydroxyethyl mercaptan; 2-Thioethanol; beta-Mercaptoethanol; Mercaptoethanol; Monothioethyleneglycol; Thiomonoglycol; Ethanol, 2-mercapto-; Thioglycol

Chemical Name: 2-Mercaptoethanol

Chemical Formula: HSC2H4OH

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
{2-}Mercaptoethanol	60-24-2	100

Toxicological Data on Ingredients: 2-Mercaptoethanol: ORAL (LD50): Acute: 244 mg/kg [Rat]. 190 mg/kg [Mouse]. DERMAL (LD50): Acute: 300 ul/kg [Guinea pig Rabbit]. 150 ul/kg [Rabbit].

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (permeator), of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. Severe over-exposure can result in death.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to the nervous system, mucous membranes. The substance may be toxic to upper respiratory tract, eyes, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Combustible.

Auto-Ignition Temperature: 295°C (563°F)

Flash Points: CLOSED CUP: 73.889°C (165°F).

Flammable Limits: LOWER: 2.3% UPPER: 18%

Products of Combustion: These products are carbon oxides (CO, CO2), sulfur oxides (SO2, SO3...).

Fire Hazards in Presence of Various Substances:
Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards:
When heated to decomposition it emits toxic fumes. Fire or contact with water may produce irritating, toxic and/or corrosive gases. Vapor may travel considerable distance to source of ignition and flash back.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill:
Combustible material. Poisonous liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

Section 7: Handling and Storage

Precautions:
Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids, alkalis.

Storage:
Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. (Mobile liquid.)

Odor:
Disagreeable and choking. Characteristic. Stench. Rotten eggs. (Strong.)

Taste: Not available.

Molecular Weight: 78.13 g/mole

Color: Clear Colorless.

pH (1% soln/water): Not available.

Boiling Point: Decomposition temperature: 157°C (314.6°F)

Melting Point: <-100°C (-148°F)

Critical Temperature: Not available.

Specific Gravity: 1.1143 (Water = 1)

Vapor Pressure: 0.1 kPa (@ 20°C)

Vapor Density: 2.7 (Air = 1)

Volatility: 100% (v/v).

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: The product is more soluble in water; log(oil/water) = -0.3

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility:
Easily soluble in cold water. Soluble in diethyl ether. Miscible in alcohol, benzene. Soluble in most organic solvents.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatible materials, moisture/water

Incompatibility with various substances:
Reactive with oxidizing agents, metals, acids, alkalis. Slightly reactive to reactive with moisture.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Also incompatible with calcium hypochlorite, aliphatic amines, isocyanates

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
Acute oral toxicity (LD50): 190 mg/kg [Mouse]. Acute dermal toxicity (LD50): 150 mg/kg [Rabbit].

Chronic Effects on Humans: Causes damage to the following organs: blood, lungs, the nervous system, mucous membranes.

Other Toxic Effects on Humans:
Very hazardous in case of skin contact (permeator), of ingestion. Hazardous in case of skin contact (irritant), of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: Causes skin irritation and can be absorbed into the body in toxic quanitites. Eyes: Splashes can cause severe irritation. Vapors irritate the eyes causing redness and pain. May result in corneal injury Inhalation: Vapors irritate the respiratory tract and mucous membranes. Symptoms may include coughing, sore throat shortness of breath. Ingestion: Toxic. Harmful if swallowed. Sore throat, gastrointestinal tract irritation with nausea, abdominal pain, vomiting, and diarrhea may occur. It may also affect behavior/central nervous system (headache, dizziness, excitement, muscle contraction or spasticity, temor, convulsions, somnolence), respiration (respiratory depression, pulmonary edema). It may also cause urinary disturbances. Chronic Potential Health Effects: Ingestion: Prolonged or repeated ingestion may affect behavior/central nervous system with symptoms similar to that of acute ingestion. It may also affect metabolism (weight loss).

Section 12: Ecological Information

Ecotoxicity:

Ecotoxicity in water (LC50): >46 mg/l 96 hours [Fish (Leuciscus idus)]. 1.5 ppm 48 hours [Daphnia (daphnia)]. 12 mg/l 72 hours [Algae (Algae.)].

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 6.1: Poisonous material.

Identification: : Thioglycol UNNA: 2966 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:
Pennsylvania RTK: 2-Mercaptoethanol Minnesota: 2-Mercaptoethanol Massachusetts RTK: 2-Mercaptoethanol Massachusetts spill list: 2-Mercaptoethanol TSCA 8(b) inventory: 2-Mercaptoethanol

Other Regulations:
OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):
CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):
R22- Harmful if swallowed. R24- Toxic in contact with skin. R36- Irritating to eyes. S24/25- Avoid contact with skin and eyes. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 2

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 2

Reactivity: 1

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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