



Material Safety Data Sheet

2-Mercaptoethanol

MSDS# 13740

Section 1 - Chemical Product and Company Identification

MSDS Name: 2-Mercaptoethanol
Catalog Numbers: AC125470000, AC125470010, AC125470100, AC125472500, BP176-100, O34461-100
Synonyms: beta-Mercaptoethanol; 2-Hydroxyethyl Mercaptan; 2-Hydroxyethanethiol; Thioglycol.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 60-24-2
Chemical Name: 2-Mercaptoethanol
%: > 98
EINECS#: 200-464-6

Hazard Symbols: T



Risk Phrases: 22 24 36

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Warning! Combustible liquid and vapor. May be fatal if absorbed through the skin. Moisture sensitive. Harmful if swallowed. Causes severe eye irritation. May cause skin and respiratory tract irritation. Target Organs: Central nervous system, respiratory system, eyes.

Potential Health Effects

Eye: May cause severe eye irritation. May result in corneal injury.
Skin: May be fatal if absorbed through the skin. May cause irritation with burning pain, itching and redness.
Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause muscle paralysis, respiratory failure, and possible death.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. May cause dyspnea (difficult or labored breathing). Exposure to high concentrations of mercaptans can produce unconsciousness with cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), cold extremities and rapid pulse. Mercaptans may cause nausea and headache.
Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis. Repeated or prolonged exposure may cause CNS stimulation.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while

removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Combustion generates toxic fumes. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Combustible liquid. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: 295 deg C (563.00 deg F)

Flash Point: 73.9 deg C (165.02 deg F)

Explosion Limits: Lower: 1.1

Explosion Limits: Upper: 2.7

NFPA Rating: health: 3; flammability: 2; instability: 1;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale. Do not allow contact with water. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|-------------------|-------------|-------------|-------------------|
| 2-Mercaptoethanol | none listed | none listed | none listed |

OSHA Vacated PELs: 2-Mercaptoethanol: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face

protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a

Respirators: NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: clear, colorless

Odor: strong odor - rotten egg-like

pH: 5.2 (0.1M sol)

Vapor Pressure: 1 mm Hg @ 20 deg C

Vapor Density: 2.69 (air=1)

Evaporation Rate: Not available

Viscosity: 343 cP

Boiling Point: 157.2 deg C (314.96°F)

Freezing/Melting Point: -100 deg C (-148.00°F)

Decomposition Temperature:

Solubility in water: Soluble in water.

Specific Gravity/Density: 1.14 (water=1)

Molecular Formula: C₂H₆OS

Molecular Weight: 78.13

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, ignition sources, excess heat.

Incompatibilities with Other Materials: Not available

Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 60-24-2: KL5600000

RTECS:

CAS# 60-24-2: Dermal, guinea pig: LD50 = 300 uL/kg;

Draize test, rabbit, eye: 2 mg Severe;

Inhalation, mouse: LC50 = 13200 mg/m³;

LD50/LC50: Oral, mouse: LD50 = 190 mg/kg;

Oral, rat: LD50 = 244 mg/kg;

Skin, rabbit: LD50 = 150 uL/kg;

Other:

Carcinogenicity: 2-Mercaptoethanol - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other: No information available.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: THIOGLYCOL

Hazard Class: 6.1

UN Number: UN2966

Packing Group: II

Canada TDG
Shipping Name: THIOGLYCOL
Hazard Class: 6.1
UN Number: UN2966
Packing Group: II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T

Risk Phrases:

R 22 Harmful if swallowed.

R 24 Toxic in contact with skin.

R 36 Irritating to eyes.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 60-24-2: 3

Canada

CAS# 60-24-2 is listed on Canada's DSL List

Canadian WHMIS Classifications: B3, D1A, D2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 60-24-2 is listed on Canada's Ingredient Disclosure List

REVIEWED

DATE: 04 April 2012

Chutterford

US Federal

TSCA

CAS# 60-24-2 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 12/15/1998

Revision #11 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.
