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Material Safety Data Sheet

1-Propanethiol MSDS

Section 1: Chemical Product and Company Identification

Product Name: 1-Propanethiol

Catalog Codes: SLP2302

CAS#: 107-03-9

RTECS: TZ7300000

TSCA: TSCA 8(b) inventory: 1-Propanethiol

CI#: Not available.

Synonym: 1-Mercaptopropane; n-Propyl mercaptan; n-Propylthiol; Propane-1-thiol; Propyl mercaptan; Propylthiol

Chemical Name: 1-Propanethiol

Chemical Formula: C3-H8-H

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
{1-}Propanethiol	107-03-9	100

Toxicological Data on Ingredients: 1-Propanethiol: ORAL (LD50): Acute: 1790 mg/kg [Rat]. VAPOR (LC50): Acute: 4010 ppm 4 hours [Mouse]. 7300 ppm 4 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to lungs, upper respiratory tract, skin, eyes, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

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. WARM water MUST be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

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 if symptoms appear.

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: Flammable.

Auto-Ignition Temperature: Not available.

Flash Points: CLOSED CUP: -20°C (-4°F).

Flammable Limits: Not available.

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

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat.

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.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards: When heated to decomposition it emits highly toxic fumes of sulfur oxides

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

Large Spill:

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed.

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. 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, reducing agents, acids, alkalis.

Storage:

Store in a segregated and approved area. 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.

Odor:

Stench. Offensive smelling. Characteristic odor of cabbage.

Taste: Sweet onion and cabbage like flavor

Molecular Weight: 76.16 g/mole

Color: Clear Colorless.

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

Boiling Point: 67°C (152.6°F)

Melting Point: -113.3°C (-171.9°F)

Critical Temperature: 257°C (494.6°F)

Specific Gravity: 0.8411 (Water = 1)

Vapor Pressure: 20.6 kPa (@ 20°C)

Vapor Density: 2.63 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.00075 ppm

Water/Oil Dist. Coeff.: The product is more soluble in oil; log(oil/water) = 1.7

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Soluble in diethyl ether, acetone. Very slightly soluble in cold water. Soluble in benzene, alcohol, propylene glycol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents, reducing agents, acids, alkalis.

Corrosivity: Not available.

Special Remarks on Reactivity: Incompatible with calcium hypchlorite, and alkali metals

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

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

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 1790 mg/kg [Rat]. Acute toxicity of the vapor (LC50): 4010 4 hours [Mouse].

Chronic Effects on Humans:

May cause damage to the following organs: lungs, upper respiratory tract, skin, eyes, central nervous system (CNS).

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant). Slightly hazardous in case of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes severe skin irritation. May cause contact dermatitis. Eyes: Causes severe eye irritation. May cause chemical conjunctivitis and corneal damage Inhalation: It can irritate the eyes, nose, throat, and lungs causing burning sensation in the chest, coughing, wheezing and/or shortness of breath. It may affect behavior/central nervous system and cause headache, muscle weakness, dizziness, ataxia, somnolence, convulsions, respiratory paralysis/suffocation, and unconsciousness. Inhalation of large amounts may also cause cyanosis (a bluish discoloration of the skin due to deficient oxygenation of the blood). Aspiration may lead to pulmonary edema. Ingestion: It may cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea. Ingestion of large amounts may affect behavior/central nervous system and cause central nervous system depression with symptoms similar to that of inhalation. Chronic Potential Health Effects: Inhalation: Prolonged or repeated inhalation can irritate the lungs and may affect the respiratory system and cause bronchitis to develop with cough, phlegm and/or shortness of breath.

Section 12: Ecological Information

Ecotoxicity: Not available.

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 3: Flammable liquid.

Identification: : Propanethiols (1-Propanethiols) UNNA: 2402 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Connecticut hazardous material survey.: 1-Propanethiol Minnesota: 1-Propanethiol Massachusetts RTK: 1-Propanethiol Massachusetts spill list: 1-Propanethiol New Jersey: 1-Propanethiol TSCA 8(b) inventory: 1-Propanethiol TSCA 8(a) CAIR: 1-Propanethiol

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-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R11- Highly flammable. R22- Harmful if swallowed. R36/38- Irritating to eyes and skin. S9- Keep container in a well-ventilated place. S16- Keep away from sources of ignition - No smoking. S33- Take precautionary measures against static discharges. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

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

Health: 2

Flammability: 3

Reactivity: 0

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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