Ethyl Mercaptan MSDS

Disclaimer: This Material Safety Data Sheet (MSDS) is provided for informational purposes only. It is intended to be a general guide and should not be considered a substitute for professional advice or training. Users should seek specific guidance from qualified professionals regarding the handling, storage, and disposal of this chemical.

1. Product Name and Identification

- **Product Name:** Ethyl Mercaptan
- **CAS Number:** 75-08-1
- **Synonyms:** Ethanethiol, Thioethyl Alcohol, Ethyl Hydrosulfide

2. Composition/Ingredients

- **Chemical Name:** Ethyl Mercaptan (Ethanethiol)
- **Concentration:** Typically ≥99%
- **Formula:** C_2H_6S

3. Hazards Identification

- **Physical Hazards:** Highly flammable liquid and vapor. Vapors are heavier than air and may travel along the ground to distant ignition sources. May form explosive mixtures with air.
- **Health Hazards:** Toxic if inhaled. Harmful if swallowed or in contact with skin. Causes skin irritation and serious eye irritation. May cause respiratory irritation. Central nervous system depression can occur at high concentrations. The strong, unpleasant odor provides a warning of exposure, but olfactory fatigue can occur.
- **Environmental Hazards:** Harmful to aquatic life. Avoid release into the environment.

4. First Aid Measures

- **Inhalation:** Immediately move the exposed person to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. Seek immediate medical attention.
- **Skin Contact:** Remove contaminated clothing and shoes immediately. Wash the affected area thoroughly with soap and plenty of water for at least 15 minutes. Seek medical attention if irritation persists.
- **Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

- **Ingestion:** Do NOT induce vomiting. If the person is conscious and alert, rinse their mouth with water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

5. Handling and Storage

- **Handling:** Use only in a well-ventilated area or under a chemical fume hood. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. Ground and bond containers when transferring material. Use non-sparking tools. Avoid breathing vapor or mist. Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment.
- **Storage:** Store in a tightly closed, properly labeled container in a cool, dry, and well-ventilated area. Keep away from incompatible materials such as oxidizing agents, bases, and reactive metals. Store in a segregated and approved area for flammable liquids.

6. Exposure Controls/Personal Protection

- **Exposure Limits:** Consult local regulations for specific occupational exposure limits (OELs).
- **Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below permissible exposure limits. Ensure eyewash stations and safety showers are close to the workstation location.
- **Personal Protective Equipment (PPE):**
    - **Eye/Face Protection:** Wear chemical safety goggles and/or a face shield.
    - **Skin Protection:** Wear chemically resistant gloves (e.g., nitrile, neoprene), an apron, and other protective clothing to prevent skin contact.
    - **Respiratory Protection:** If exposure limits are exceeded or irritation is experienced, a NIOSH-approved respirator with an organic vapor cartridge is required.

7. Physical and Chemical Properties

- **Appearance:** Colorless liquid
- **Odor:** Strong, pungent, garlic-like or skunk-like
- **Boiling Point:** 35°C (95°F)
- **Melting Point:** -148°C (-234°F)
- **Flash Point:** -48°C (-54°F)
- **Vapor Pressure:** 442 mm Hg @ 20°C (68°F)
- **Solubility:** Slightly soluble in water; soluble in organic solvents.
- **Specific Gravity:** 0.84 @ 20°C (68°F)

8. Stability and Reactivity

- **Stability:** Stable under recommended storage conditions.
- **Reactivity:** Reacts violently with strong oxidizing agents, strong bases, and certain metals.
- **Conditions to Avoid:** Heat, flames, sparks, and other ignition sources. Contact with incompatible materials.
- **Incompatible Materials:** Strong oxidizing agents, strong bases, alkali metals, and reactive metals.
- **Hazardous Decomposition Products:** Upon combustion, may produce toxic gases such as carbon monoxide, carbon dioxide, and sulfur oxides.

9. Toxicological Information

- **Acute Effects:**
    - **Inhalation:** High concentrations can cause headache, nausea, dizziness, respiratory tract irritation, and central nervous system depression, potentially leading to unconsciousness or death.
    - **Skin:** Causes skin irritation. Absorption through the skin may be harmful.
    - **Eyes:** Causes serious eye irritation and potential damage.
    - **Ingestion:** Harmful if swallowed. May cause gastrointestinal irritation, nausea, and vomiting.
- **Chronic Effects:** Long-term exposure may lead to liver and kidney damage. Olfactory fatigue can occur, reducing the ability to detect the odor at dangerous concentrations.

10. Disposal Considerations

- **Disposal Method:** Dispose of this material and its container in accordance with all applicable federal, state, and local regulations. Do not allow the product to enter drains, sewers, or waterways. Disposal should be handled by a licensed professional waste disposal service. The flammability of the product must be considered. Contaminated packaging should be treated as the product itself.