

Mercaptoacetic Acid MSDS

Disclaimer: This Material Safety Data Sheet (MSDS) is intended for use by qualified professionals. The information provided is based on currently available data and is believed to be accurate. However, no warranty, express or implied, is made concerning the accuracy or completeness of this information. The user is responsible for evaluating the information and using the product safely.

1. Product Name and Identification

- **Product Name:** [Mercaptoacetic Acid](#)
- **CAS Number:** 68-11-1
- **Synonyms:** Thioglycolic Acid (TGA), 2-Thioglycolic acid, 2-Mercaptoacetic acid
- **Chemical Formula:** C₂H₄O₂S

2. Composition/Ingredients

- **Chemical Name:** Mercaptoacetic Acid
- **Purity:** Typically supplied in high concentrations, often as an 80-99% solution in water.
- **Hazardous Component:** Yes

3. Hazards Identification

- **Physical Hazards:** Corrosive to metals. Not classified as a flammable or explosive hazard.
- **Health Hazards:** Toxic if swallowed or in contact with skin. Causes severe skin burns and serious eye damage. Harmful if inhaled. May cause an allergic skin reaction (sensitization). The strong, unpleasant odor provides a warning, but should not be relied upon to prevent overexposure.
- **Environmental Hazards:** Harmful to aquatic life. Prevent release into the environment.

4. First Aid Measures

- **Inhalation:** Immediately move the exposed individual to fresh air. If breathing is difficult, provide oxygen. If breathing has stopped, perform artificial respiration. Seek immediate medical attention.
- **Skin Contact:** Immediately flush skin with large amounts of water for at least 15-20 minutes while removing contaminated clothing and shoes. Seek immediate medical attention.
- **Eye Contact:** Immediately rinse eyes cautiously with water for at least 20-30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention, preferably from an ophthalmologist.

- **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, preferably under a chemical fume hood. Do not breathe vapor or mist. Avoid all contact with skin, eyes, and clothing. Wear appropriate personal protective equipment (PPE). When handling, have an eyewash station and safety shower readily available.
- **Storage:** Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers tightly closed and in an upright position to prevent leakage. Store in corrosion-resistant containers. Protect from air and light, which can cause degradation. Store away from strong acids, bases, and oxidizing agents.

6. Exposure Controls/Personal Protection

- **Exposure Limits:** Adhere to all applicable federal, state, and local regulations for occupational exposure limits.
- **Engineering Controls:** Use local exhaust ventilation and other engineering controls to maintain airborne concentrations below established exposure limits. Ensure the work area is equipped with an eyewash station and a safety shower.
- **Personal Protective Equipment (PPE):**
 - **Eye/Face Protection:** Wear chemical safety goggles and a face shield.
 - **Skin Protection:** Wear chemically resistant gloves (e.g., neoprene, butyl rubber), an apron, and other protective clothing to prevent any skin contact.
 - **Respiratory Protection:** If exposure limits are exceeded or if ventilation is inadequate, use a NIOSH-approved respirator with an appropriate acid gas/organic vapor cartridge.

7. Physical and Chemical Properties

- **Appearance:** Colorless to slightly yellow liquid
- **Odor:** Strong, unpleasant, pungent odor
- **Boiling Point:** Approximately 123°C (253°F) @ 20 mmHg
- **Melting Point:** -16.5°C (2.3°F)
- **Flash Point:** >110°C (>230°F)
- **pH:** Highly acidic (typically < 2 for solutions)
- **Solubility:** Miscible with water, alcohol, and ether.
- **Specific Gravity:** Approximately 1.32 g/cm³

8. Stability and Reactivity

- **Stability:** Stable under recommended storage conditions. May oxidize when exposed to air.
- **Reactivity:** Corrosive. Reacts vigorously with strong bases, oxidizing agents, and reducing agents. Contact with metals can produce flammable hydrogen gas.
- **Conditions to Avoid:** Exposure to heat, air, light, and incompatible materials.
- **Incompatible Materials:** Strong oxidizing agents, strong bases, active metals, and strong acids.
- **Hazardous Decomposition Products:** When heated to decomposition, it may emit toxic fumes of sulfur oxides (SO_x), carbon monoxide, and carbon dioxide.

9. Toxicological Information

- **Acute Effects:**
 - **Oral:** Toxic if swallowed. Ingestion can cause severe burns to the mouth, throat, and stomach.
 - **Dermal:** Toxic in contact with skin. Causes severe chemical burns. Can be absorbed through the skin, leading to systemic effects.
 - **Inhalation:** Harmful if inhaled. Vapors or mists can cause severe irritation and chemical burns to the respiratory tract.
 - **Eyes:** Causes severe, potentially irreversible eye damage and burns.
- **Chronic Effects:** Repeated or prolonged contact may cause skin sensitization, resulting in an allergic reaction on subsequent exposures. No other significant chronic effects are documented under normal industrial use.

10. Disposal Considerations

- **Disposal Method:** Disposal of this chemical must be handled in strict accordance with all federal, state, and local environmental regulations. It is considered a hazardous waste. Do not pour into drains, sewers, or on the ground. A licensed and certified hazardous waste disposal company should be contracted for disposal. Contaminated packaging must be treated with the same precautions as the product itself and disposed of as hazardous waste.