Ammonium Thioglycolate MSDS

Disclaimer: This Material Safety Data Sheet (MSDS) has been prepared for informational purposes. It is intended for use by individuals with appropriate technical training. The user of this product is solely responsible for determining the suitability of this information for their specific application and for complying with all applicable laws and regulations.

1. Product Name and Identification

- **Product Name:** Ammonium Thioglycolate
- **CAS Number:** 5421-46-5
- **Synonyms:** Thioglycolic acid, ammonium salt; Ammonium mercaptoacetate
- **Chemical Formula:** $HSCH_2COONH_4$

2. Composition/Ingredients

- **Chemical Name:** Ammonium Thioglycolate
- **Typical Concentration:** Often supplied as an aqueous solution, with concentrations varying (e.g., 40-70%). This MSDS pertains to the chemical substance itself.
- **Hazardous Component:** Yes

3. Hazards Identification

- **Physical Hazards:** Not classified as a physical hazard. However, heating may cause the release of toxic and flammable gases.
- **Health Hazards:** Harmful if swallowed or in contact with skin. Causes serious eye damage. May cause skin irritation and an allergic skin reaction (sensitization). Inhalation of mists or vapors can cause respiratory tract irritation.
- **Environmental Hazards:** May be harmful to aquatic life. Avoid release into waterways.

4. First Aid Measures

- **Inhalation:** Move the affected person to fresh air and keep them in a position comfortable for breathing. If respiratory symptoms develop or persist, seek medical attention.
- **Skin Contact:** Immediately remove contaminated clothing. Wash the affected skin area thoroughly with mild soap and plenty of water for at least 15 minutes. If skin irritation or a rash occurs, seek medical advice.
- **Eye Contact:** Immediately rinse the eyes with large amounts of water for at least 15-20 minutes, holding the eyelids apart to ensure complete flushing of the eye and lid surfaces. Remove contact lenses if present and easy to do. Seek immediate medical attention.

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

5. Handling and Storage

- **Handling:** Use only in a well-ventilated area. Avoid breathing mist, vapors, or spray. Avoid contact with skin, eyes, and clothing. Wear appropriate personal protective equipment (PPE). Wash hands thoroughly after handling. Keep containers tightly closed when not in use.
- **Storage:** Store in a cool, dry, and well-ventilated area away from direct sunlight and heat. Keep containers tightly sealed in their original packaging. Store away from incompatible materials such as strong acids, bases, and oxidizing agents.

6. Exposure Controls/Personal Protection

- **Exposure Limits:** Follow established occupational exposure limits for components as required by local and national regulations.
- **Engineering Controls:** Ensure adequate ventilation, especially in confined areas. Use local exhaust ventilation to control airborne concentrations. Make sure safety showers and eyewash stations are easily accessible.
- **Personal Protective Equipment (PPE):**
    - **Eye/Face Protection:** Wear chemical safety goggles or a face shield to protect against splashes.
    - **Skin Protection:** Wear chemically resistant gloves (e.g., neoprene, nitrile rubber) and protective clothing, such as a lab coat or apron, to prevent skin contact.
    - **Respiratory Protection:** If ventilation is inadequate or exposure limits are likely to be exceeded, use a NIOSH-approved respirator with an appropriate cartridge for organic vapors and acid gases.

7. Physical and Chemical Properties

- **Appearance:** Colorless to light pink liquid
- **Odor:** Distinctive unpleasant, skunk-like odor
- **pH:** Typically 6.5 - 7.0 for a 10% solution
- **Boiling Point:** Decomposes upon heating
- **Melting Point:** Not applicable (typically supplied as a solution)
- **Flash Point:** >100°C (>212°F)
- **Solubility:** Miscible in water
- **Specific Gravity:** Approximately 1.1 - 1.2 g/mL (for aqueous solutions)

8. Stability and Reactivity

- **Stability:** Stable under normal handling and storage conditions.
- **Reactivity:** Reacts with strong acids, bases, and oxidizing agents. Contact with acids can release toxic hydrogen sulfide gas.
- **Conditions to Avoid:** Exposure to high temperatures, direct sunlight, and contact with incompatible substances.
- **Incompatible Materials:** Strong oxidizing agents, strong acids, strong bases, and metals.
- **Hazardous Decomposition Products:** Thermal decomposition can produce toxic fumes, including ammonia, nitrogen oxides (NOx), and sulfur oxides (SOx).

9. Toxicological Information

- **Acute Effects:**
    - **Oral:** Harmful if swallowed. Ingestion can cause irritation to the gastrointestinal tract.
    - **Dermal:** Harmful in contact with skin. Causes skin irritation and may lead to allergic contact dermatitis in sensitized individuals.
    - **Inhalation:** Inhalation of mists may irritate the nose, throat, and lungs.
    - **Eyes:** Causes serious and potentially irreversible eye damage.
- **Chronic Effects:** Repeated or prolonged skin contact may cause sensitization, leading to an allergic reaction upon subsequent exposures. No significant long-term effects are known for other routes of exposure under normal use conditions.

10. Disposal Considerations

- **Disposal Method:** This material and its container must be disposed of in accordance with all applicable federal, state, and local regulations. Do not allow the product to enter drains, sewers, or soil. Disposal must be handled by a licensed and qualified hazardous waste management company. Contaminated packaging should be disposed of in the same manner as the product.