Sodium Methyl Mercaptide MSDS

Section 1: Product Name and Identification

Product Name: Sodium Methyl Mercaptide
Chemical Name: Sodium methylthiolate
Synonyms: SMM, Sodium methanethiolate, Methyl mercaptan sodium salt
CAS Number: 5188-07-8
Molecular Formula: CH_3SNa
Molecular Weight: 70.09 g/mol
Product Use: Chemical intermediate, reagent for organic synthesis
Supplier: [Company Name]
Emergency Phone: [Emergency Contact Number]
Date of Preparation: [Current Date]

Section 2: Composition/Ingredients

Component	CAS Number	Concentration (%)	Classification
Sodium Methyl Mercaptide	5188-07-8	95-99	Hazardous substance
Water	7732-18-5	1-5	Non-hazardous

Note: Exact concentration may vary depending on manufacturing specifications and grade.

Section 3: Hazards Identification

GHS Classification:

- Acute Toxicity (Oral): Category 3
- Skin Irritation: Category 2
- Eye Irritation: Category 2A
- Respiratory Sensitization: Category 1

Signal Word: DANGER

Hazard Statements:

- H301: Toxic if swallowed

- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H400: Very toxic to aquatic life

Precautionary Statements:

- P261: Avoid breathing dust/fume/gas/mist/vapors/spray
- P264: Wash hands thoroughly after handling
- P270: Do not eat, drink or smoke when using this product
- P280: Wear protective gloves/protective clothing/eye protection/face protection

Physical Hazards: Combustible solid. May release toxic gases when heated.

Health Hazards: Harmful if swallowed. Causes skin and eye irritation. May cause respiratory sensitization.

Environmental Hazards: Toxic to aquatic organisms. May cause long-term adverse effects in aquatic environments.

Section 4: First Aid Measures

Inhalation:

- Move person to fresh air immediately
- If breathing is difficult, provide oxygen
- If not breathing, give artificial respiration
- Seek immediate medical attention

Skin Contact:

- Remove contaminated clothing immediately
- Rinse affected area with plenty of water for at least 15 minutes
- Apply cold compresses to reduce irritation
- Seek medical attention if irritation persists

Eye Contact:

- Rinse immediately with plenty of clean water for at least 15 minutes
- Hold eyelids apart to ensure thorough flushing
- Remove contact lenses if present and easily removable
- Seek immediate medical attention

Ingestion:

- Do NOT induce vomiting
- Rinse mouth with water

- Give small amounts of water to drink if person is conscious
- Seek immediate medical attention
- Never give anything by mouth to an unconscious person

Most Important Symptoms: Respiratory irritation, skin burns, eye damage, gastrointestinal distress

Notes to Physician: Treat symptomatically. No specific antidote available.

Section 5: Handling and Storage

Precautions for Safe Handling:

- Use only in well-ventilated areas
- Wear appropriate personal protective equipment
- Avoid contact with skin, eyes, and clothing
- Do not eat, drink, or smoke during use
- Wash hands thoroughly after handling
- Use non-sparking tools and explosion-proof equipment

Conditions for Safe Storage:

- Store in original container in a cool, dry, well-ventilated area
- Keep container tightly closed when not in use
- Store away from incompatible materials
- Temperature range: 15-25°C (59-77°F)
- Protect from moisture and direct sunlight
- Keep away from heat sources and ignition sources

Incompatible Materials: Strong oxidizing agents, acids, moisture, air

Section 6: Exposure Controls/Personal Protection

Occupational Exposure Limits: No established limits available

Engineering Controls:

- Use adequate ventilation to maintain airborne concentrations below exposure limits
- Use explosion-proof electrical equipment
- Provide emergency eyewash stations and safety showers
- Consider enclosed processing or local exhaust ventilation

Personal Protective Equipment:

Respiratory Protection:

- Use NIOSH-approved respirator when exposure limits may be exceeded

- In confined spaces, use supplied-air respiratory protection

Hand Protection:

- Wear chemical-resistant gloves (nitrile or neoprene recommended)
- Replace gloves regularly or when contaminated

Eye Protection:

- Safety glasses with side shields minimum
- Chemical goggles recommended for extended exposure

Skin Protection:

- Wear long-sleeved shirt, long pants, and closed-toe shoes
- Chemical-resistant apron for handling operations
- Emergency shower facilities should be available

Section 7: Physical and Chemical Properties

Appearance: White to off-white crystalline powder
Odor: Characteristic mercaptan-like odor
Odor Threshold: Low detection threshold
pH: 10-12 (1% aqueous solution)
Melting Point: Decomposes before melting (>200°C)
Boiling Point: Not applicable (decomposes)
Flash Point: Not applicable
Evaporation Rate: Not applicable
Flammability: Combustible solid
Vapor Pressure: Negligible at room temperature
Vapor Density: Not applicable
Relative Density: Approximately 1.4 g/cm^3
Solubility: Soluble in water, slightly soluble in alcohols
Partition Coefficient: Not determined
Auto-ignition Temperature: Not determined
Decomposition Temperature: >200°C
Viscosity: Not applicable

Section 8: Stability and Reactivity

Reactivity: Stable under normal conditions. May react with strong oxidizers and acids.

Chemical Stability: Stable when stored properly. Avoid exposure to moisture and air.

Possibility of Hazardous Reactions: May occur with strong oxidizing agents, producing toxic sulfur compounds.

Conditions to Avoid:

- High temperatures
- Moisture

- Direct sunlight
- Incompatible materials

Incompatible Materials:

- Strong oxidizing agents
- Strong acids
- Heavy metal salts
- Moisture

Hazardous Decomposition Products:

- Hydrogen sulfide
- Sulfur oxides
- Sodium oxide
- Carbon monoxide

Section 9: Toxicological Information

Information on Likely Routes of Exposure:

- Inhalation: Primary concern during handling
- Dermal: Through skin contact
- Ingestion: Accidental consumption
- Eye: Direct contact with dust or solution

Information on Toxicological Effects:

Acute Toxicity:

- Oral LD50 (rat): Estimated 300-500 mg/kg
- Dermal LD50 (rabbit): >2000 mg/kg
- Inhalation LC50: Not determined

Skin Corrosion/Irritation: Causes skin irritation with repeated or prolonged contact

Serious Eye Damage/Irritation: Causes serious eye irritation

Respiratory/Skin Sensitization: May cause respiratory sensitization in susceptible individuals

Germ Cell Mutagenicity: No data available

Carcinogenicity: Not classified as carcinogenic

Reproductive Toxicity: No data available

Specific Target Organ Toxicity: No evidence of target organ toxicity

Aspiration Hazard: Not applicable for solid form

Section 10: Disposal Considerations

Waste Treatment Methods:

- Dispose of in accordance with local, regional, and national regulations
- Contact licensed waste disposal service for proper disposal
- Do not discharge into drains, waterways, or soil

Disposal of Contaminated Packaging:

- Triple rinse containers before disposal
- Dispose of as hazardous waste if contaminated
- Follow local regulations for container disposal

Special Precautions:

- Neutralize with appropriate agents before disposal when possible
- Consider incineration at approved high-temperature facility
- Prevent environmental contamination during disposal

Regulatory Information:

- May be subject to hazardous waste regulations
- Check local and federal requirements before disposal
- Waste classification may vary by jurisdiction

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