## HYDROXYLAMINE SULFATE

### CAUTIONARY RESPONSE INFORMATION

<table>
<thead>
<tr>
<th>Common Synonyms</th>
<th>Solid</th>
<th>White</th>
<th>Odorless</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxammonium sulfate</td>
<td></td>
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</table>

**KEEP PEOPLE AWAY** - AVOID CONTACT WITH SOLID AND DUST.
Wear chemical protective suit with self-contained breathing apparatus. Notify local health and pollution control agencies. Protect water intakes.

### 1. CORRECTIVE RESPONSE ACTIONS

#### Fire
- Not Flammable.
- POISONOUS GASES MAY BE PRODUCED IN FIRE.

#### Exposure
- CALL FOR MEDICAL AID.
  **DUST**
  - Irritating to eyes, nose and throat.
  - If inhaled will cause difficult breathing or loss of consciousness.
  - In eyes, hold eyelids open and flush with plenty of water.
  - If breathing has stopped, give artificial respiration.
  - If breathing is difficult, give oxygen.
  - SOLID
  - POISONOUS IF SWALLOWED.
  - Irritating to skin and eyes.
  - If swallowed will cause nausea or loss of consciousness.
  - Remove contaminated clothing and shoes.
  - Flush affected areas with plenty of water.
  - IF IN EYES, hold eyelids open and flush with plenty of water.
  - IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.
  - IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.

#### Water Pollution
- Effect of low concentrations on aquatic life is unknown.
- May be dangerous if it enters water intakes.
- Notify local health and wildlife officials.
- Notify operators of nearby water intakes.

### 2. CHEMICAL DESIGNATIONS

#### 3. HEALTH HAZARDS

- **3.1 Personal Protective Equipment**
  - Acid-resistant protective clothing, including coveralls, wrist-length gloves, cap, goggles, and dust mask.

- **3.2 Symptoms Following Exposure**
  - Inhalation of dust or ingestion may cause systemic poisoning characterized by dyspnea, methemoglobinemia, convulsions, and coma. Contact with eyes or skin causes irritation.

- **3.3 Treatment of Exposure**
  - **INHALATION**: remove victim to fresh air; get medical attention if symptoms occur.
  - **INGESTION**: give large amount of water; induce vomiting; get medical attention.
  - **EYES**: flush with water for at least 15 min., and get medical attention. **SKIN**: flush immediately with plenty of water, then wash with soap and water.

#### 4. FIRE HAZARDS

- **4.1 Flash Point**: Not flammable
- **4.2 Flammable Limits in Air**: Not flammable
- **4.3 Fire Extinguishing Agents**: Not pertinent
- **4.4 Fire Extinguishing Agents Not to Be Used**: Not pertinent
- **4.5 Special Hazards of Combustion**
  - Products: Sulfuric acid fumes may form in fire.
- **4.6 Behavior in Fire**: Not pertinent
- **4.7 Auto Ignition Temperature**: Not pertinent
- **4.8 Electrical Hazards**: Not pertinent
- **4.9 Burning Rate**: Not pertinent
- **4.10 Adiabatic Flame Temperature**: Currently not available
- **4.11 Stoichiometric Air to Fuel Ratio**: Not pertinent
- **4.12 Flame Temperature**: Currently not available
- **4.13 Combustion Molar Ratio (Reactant to Product)**: Not pertinent
- **4.14 Minimum Oxygen Concentration for Combustion (MOCC)**: Not listed

### 5. CHEMICAL REACTIVITY

- **5.1 Reactivity with Water**: No reaction
- **5.2 Reactivity with Common Materials**: May be corrosive to metals in presence of moisture
- **5.3 Stability During Transport**: Stable
- **5.4 Neutralizing Agents for Acids and Caustics**: Flush with water
- **5.5 Polymerization**: Not pertinent
- **5.6 Inhibitor of Polymerization**: Not pertinent

### 6. WATER POLLUTION

- **6.1 Aquatic Toxicity**: Currently not available
- **6.2 Waterfowl Toxicity**: Currently not available
- **6.3 Biological Oxygen Demand (BOD)**: Currently not available
- **6.4 Food Chain Concentration Potential**: Unknown
- **6.5 GESAMP Hazard Profile**: Not listed

### 7. SHIPPING INFORMATION

- **7.1 Grades of Purity**: Commercial, 97.09%
- **7.2 Storage Temperature**: Ambient
- **7.3 Inert Atmosphere**: No requirement
- **7.4 Venting**: Open
- **7.5 IMO Pollution Category**: Currently not available
- **7.6 Ship Type**: Currently not available
- **7.7 Barge Hull Type**: Currently not available

### 8. HAZARD CLASSIFICATIONS

- **8.1 49 CFR Category**: Corrosive material
- **8.2 49 CFR Class**: 8
- **8.3 49 CFR Package Group**: III
- **8.4 Marine Pollutant**: No
- **8.5 NFPA Hazard Classification**: Not listed
- **8.6 EPA Reportable Quantity**: Not listed
- **8.7 EPA Pollution Category**: Not listed
- **8.8 RCRA Waste Number**: Not listed
- **8.9 EPA FWPCA List**: Not listed

### 9. PHYSICAL & CHEMICAL PROPERTIES

- **9.1 Physical State at 15°C and 1 atm**: Solid
- **9.2 Molecular Weight**: 164.14
- **9.3 Boiling Point at 1 atm**: Not pertinent (decomposes)
- **9.4 Freezing Point**: Not pertinent
- **9.5 Critical Temperature**: Not pertinent
- **9.6 Critical Pressure**: Not pertinent
- **9.7 Specific Gravity**: >1 at 20°C (solid)
- **9.8 Liquid Surface Tension**: Not pertinent
- **9.9 Liquid Water Interfacial Tension**: Not pertinent
- **9.10 Vapor (Gas) Specific Gravity**: Not pertinent
- **9.11 Ratio of Specific Heats of Vapor (Gas)**: Not pertinent
- **9.12 Latent Heat of Vaporization**: Not pertinent
- **9.13 Heat of Combustion**: Not pertinent
- **9.14 Heat of Decomposition**: Not pertinent
- **9.15 Heat of Solution**: Not pertinent
- **9.16 Heat of Polymerization**: Not pertinent
- **9.17 Heat of Fusion**: Currently not available
- **9.18 Limiting Value**: Currently not available
- **9.19 Limiting Value**: Currently not available
- **9.20 Reid Vapor Pressure**: Currently not available

### NOTES
### HYDROXYLAMINE SULFATE

#### 9.20 SATURATED LIQUID DENSITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per cubic foot</th>
</tr>
</thead>
<tbody>
<tr>
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#### 9.21 LIQUID HEAT CAPACITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>British thermal unit per pound-F</th>
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#### 9.22 LIQUID THERMAL CONDUCTIVITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>British thermal unit inch per hour-square foot-F</th>
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#### 9.23 LIQUID VISCOSITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Centipoise</th>
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</thead>
<tbody>
<tr>
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### 9.24 SOLUBILITY IN WATER

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per 100 pounds of water</th>
</tr>
</thead>
<tbody>
<tr>
<td>77</td>
<td>64.000</td>
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### 9.25 SATURATED VAPOR PRESSURE

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<th>Temperature (degrees F)</th>
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### 9.27 IDEAL GAS HEAT CAPACITY

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JUNE 1999