AMMONIUM THIOSULFATE SOLUTION (60% OR LESS)

1. CORRECTIVE RESPONSE ACTIONS

1.1 Personal Protective Equipment: Wear chemical protective gloves and goggles.
1.2 Dilute and disperse with water. Notify local health and pollution control agencies.
1.3 Stop discharge.
1.4 Protect water intakes.
1.5 Notify operators of nearby water intakes.

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: 43 Miscellaneous Water Solutions
2.2 Formula: (NH₄)₂S₂O₃
2.3 DOT ID No.: Not listed
2.4 IO/UN Designation: Not listed
2.5 CAS Registry No.: 7783-18-8
2.6 CWEA Guide No.: Not listed
2.7 Standard Industrial Trade Classification: 52344

3. HEALTH HAZARDS

3.1 Symptoms Following Exposure: Contact with skin may cause eye irritation with discomfort, tearing, or blurring of vision. Contact with eyes may cause eye irritation with discomfort, tearing, and induce vomiting.
3.2 Treatment of Exposure: Get medical attention. Inhalation: Move to fresh air. Ingestion: Give 50 ml of water per kg body weight. Wash skin with soap and water.

4. FIRE HAZARDS

4.1 Flash Point: Not flammable.
4.2 Flammable Limits in Air: Not pertinent.
4.3 Fire Extinguishing Agents: Use extinguishing agents appropriate for the surrounding fire.
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent.
4.5 Special Hazards of Combustion Products: Toxic ammonia, hydrogen sulfide, and oxides of nitrogen and sulfur may form in fires.
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 Flash Point: Not pertinent.
4.11 Fire Extinguishing Agent to Liquid: Not pertinent.
4.12 Fire Extinguishing Agent to Reactant: Not pertinent.

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction.
5.2 Reactivity with Common Materials: None.
5.3 Stability During Transport: Stable.
5.4 Neutralizing Agents for Acids and Alkalis: None.
5.5 Polymerization: Will not polymerize.
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): 0.62 lb/Lb. 5 days (As the salt).
6.4 Food Chain Concentration Potential: None.
6.5 GESAMP Hazard Profile: Bioaccumulation: None. Damage to living resources: None. Human Contact Hazard: None. Reduction of amenities: None.

7. SHIPPING INFORMATION

7.1 Grades of Purity: Technical, water solutions of varying concentrations.
7.2 Storage Temperature: Ambient.
7.3 Inert Atmosphere: Ventilated (natural).
7.4 Venting: Open.
7.5 IMO Pollution Category: C
7.6 Ship Types: 3
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Class: Not listed.
8.3 Marine Pollution: No.
8.5 NPNA Hazard Classification: Category Class: Health Hazard (Blue) - 1. Flammability (Red) - Not pertinent. Instability (Yellow) - 1
8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 EPA Waste Number: Not listed.
8.9 EPA FWPCA: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid
9.2 Molecular Weight: 146.2
9.3 Boiling Point at 1 atm: 122°F = 50°C = 323°K
9.4 Freezing Point: 50°F = 10°C = 283°K
9.5 Critical Temperature: Currently not available
9.6 Critical Pressure: Currently not available
9.7 Specific Gravity: 1.33 at 16°C
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: Currently not available
9.10 Vapor (Gas) Specific Gravity: Currently not available
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available
9.12 Latent Heat of Vaporization: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Currently not available
9.15 Heat of Solution: Currently not available
9.16 Heat of Polymerization: Not pertinent.
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

JUNE 1999

NOTES
## AMMONIUM THIOSULFATE SOLUTION (60% OR LESS)

### 9.20 SATURATED LIQUID DENSITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per cubic foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>11.099</td>
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</tbody>
</table>

### 9.21 LIQUID HEAT CAPACITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>British thermal unit per pound-F</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENTLY AVAILABLE</td>
<td></td>
</tr>
</tbody>
</table>

### 9.22 LIQUID THERMAL CONDUCTIVITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>British thermal unit inch per hour-square foot-F</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENTLY AVAILABLE</td>
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</table>

### 9.23 LIQUID VISCOSITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Centipoise</th>
</tr>
</thead>
<tbody>
<tr>
<td>CURRENTLY AVAILABLE</td>
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</table>

### 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>MISCEL</td>
<td>0.348</td>
</tr>
<tr>
<td>SICB</td>
<td>3.578</td>
</tr>
<tr>
<td>L</td>
<td>6.092</td>
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</table>

### 9.25 SATURATED VAPOR PRESSURE

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>Pounds per square inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>0.00910</td>
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<tr>
<td>77</td>
<td>0.09200</td>
</tr>
<tr>
<td>100</td>
<td>0.15225</td>
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</table>

### 9.26 SATURATED VAPOR DENSITY

<table>
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<td>0.09200</td>
</tr>
<tr>
<td>100</td>
<td>0.15225</td>
</tr>
</tbody>
</table>

### 9.27 IDEAL GAS HEAT CAPACITY

<table>
<thead>
<tr>
<th>Temperature (degrees F)</th>
<th>British thermal unit per pound-F</th>
</tr>
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<tbody>
<tr>
<td>CURRENTLY AVAILABLE</td>
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</table>

**JUNE 1999**