

# AMMONIUM THIOSULFATE SOLUTION (60% OR LESS)

ATV

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Ammonium hyposulfite solution Ammonium hypo solution		Liquid	Colorless	Odorless
<p><b>Restrict access.</b>                      Wear chemical protective gloves and goggles.                      Notify local health and pollution control agencies.                      Protect water intakes.</p>				
<b>Fire</b>	Not flammable. POISONOUS GASES MAY BE PRODUCED IN FIRE. Wear goggles and self-contained breathing apparatus. Use extinguishing agents appropriate for the surrounding fire.			
<b>Exposure</b>	CALL FOR MEDICAL AID. SOLUTION Irritating to skin and eyes. 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 and induce vomiting.			
<b>Water Pollution</b>	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.			

<p><b>1. CORRECTIVE RESPONSE ACTIONS</b>                      Dilute and disperse                      Stop discharge</p>	<p><b>2. CHEMICAL DESIGNATIONS</b>                      2.1 <b>CG Compatibility Group:</b> 43;                      Miscellaneous Water Solutions                      2.2 <b>Formula:</b> (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>5</sub>                      2.3 <b>IMO/UN Designation:</b> Not listed.                      2.4 <b>DOT ID No.:</b> Not listed.                      2.5 <b>CAS Registry No.:</b> 7783-18-8                      2.6 <b>NAERG Guide No.:</b> Not listed                      2.7 <b>Standard Industrial Trade Classification:</b>                      52344</p>
<p><b>3. HEALTH HAZARDS</b></p> <p>3.1 <b>Personal Protective Equipment:</b> Wear chemical protective gloves to prevent contact with solution. Use splash-proof chemical goggles or face shield to prevent splashes from contacting the eyes.</p> <p>3.2 <b>Symptoms Following Exposure:</b> Contact with eyes may cause eye irritation with discomfort, tearing, or blurring of vision. Contact with skin may cause irritation with discomfort or rash.</p> <p>3.3 <b>Treatment of Exposure:</b> Get medical attention. <b>INHALATION:</b> Move to fresh air. <b>INGESTION:</b> Give victim two glasses of water and induce vomiting. <b>EYES:</b> Flush with plenty of water for at least 15 min., lifting lids occasionally. <b>SKIN:</b> Flush with water.</p> <p>3.4 <b>TLV-TWA:</b> Not listed.                      3.5 <b>TLV-STEL:</b> Not listed.                      3.6 <b>TLV-Ceiling:</b> Not listed.                      3.7 <b>Toxicity by Ingestion:</b> Grade 2; oral rat LD<sub>50</sub> = 2.85 g/kg.                      3.8 <b>Toxicity by Inhalation:</b> Currently not available.                      3.9 <b>Chronic Toxicity:</b> Currently not available                      3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Vapors cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.                      3.11 <b>Liquid or Solid Characteristics:</b> Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of skin.                      3.12 <b>Odor Threshold:</b> Currently not available                      3.13 <b>IDLH Value:</b> Not listed.                      3.14 <b>OSHA PEL-TWA:</b> Not listed.                      3.15 <b>OSHA PEL-STEL:</b> Not listed.                      3.16 <b>OSHA PEL-Ceiling:</b> Not listed.                      3.17 <b>EPA AEGL:</b> Not listed</p>	

## 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 **Adiabatic Flame Temperature:** Not pertinent.
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent
- 4.12 **Flame Temperature:** Not pertinent.
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not pertinent
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

## 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 Type:** 3
- 7.7 **Barge Hull Type:** Currently not available

## 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Not listed.
- 8.2 **49 CFR Class:** Not pertinent.
- 8.3 **49 CFR Package Group:** Not listed.
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:**
- | Category                  | Classification |
|---------------------------|----------------|
| Health Hazard (Blue)..... | 1              |
| Flammability (Red).....   | 0              |
| Instability (Yellow)..... | 1              |
- 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

## 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction.
- 5.2 **Reactivity with Common Materials:** Reacts with strong oxidizers such as chlorates, nitrates, and nitrites to release toxic ammonia, hydrogen sulfide, and sulfur trioxide gases.
- 5.3 **Stability During Transport:** Stable, but toxic ammonia gas may collect in enclosed spaces.
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent.
- 5.5 **Polymerization:** Will not polymerize.
- 5.6 **Inhibitor of Polymerization:** Not pertinent.

## 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** 148.2
- 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:** <1
- 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:** Not pertinent.
- 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

## 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: 0  
 Damage to living resources: (2)  
 Human Oral hazard: 1  
 Human Contact hazard: 0  
 Reduction of amenities: 0

## NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
60	11.099		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E		C U R R E N T L Y  N O T  A V A I L A B L E

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	M I S C I B L E	68 77 100	0.348 3.578 6.092	68 77 100	0.00910 0.09200 0.15025		C U R R E N T L Y  N O T  A V A I L A B L E