

FERROUS AMMONIUM SULFATE

FAS

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS	7. SHIPPING INFORMATION
Common Synonyms Ammonium ferrous sulfate Ferrous ammonium sulfate hexahydrate Iron ammonium sulfate Mohr's salt	Solid	Pale blue-green	Odorless	<p>4.1 Flash Point: Not flammable</p> <p>4.2 Flammable Limits in Air: Not flammable</p> <p>4.3 Fire Extinguishing Agents: Not pertinent</p> <p>4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent</p> <p>4.5 Special Hazards of Combustion Products: Irritating and toxic ammonia and oxides of nitrogen may form in fires.</p> <p>4.6 Behavior in Fire: Not pertinent</p> <p>4.7 Auto Ignition Temperature: Not pertinent</p> <p>4.8 Electrical Hazards: Not pertinent</p> <p>4.9 Burning Rate: Not pertinent</p> <p>4.10 Adiabatic Flame Temperature: Currently not available</p> <p>4.11 Stoichiometric Air to Fuel Ratio: Not pertinent</p> <p>4.12 Flame Temperature: Currently not available</p> <p>4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent</p> <p>4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed</p>	<p>7.1 Grades of Purity: Technical, 99-102%; Reagent</p> <p>7.2 Storage Temperature: Ambient</p> <p>7.3 Inert Atmosphere: No requirement</p> <p>7.4 Venting: Open</p> <p>7.5 IMO Pollution Category: Currently not available</p> <p>7.6 Ship Type: Currently not available</p> <p>7.7 Barge Hull Type: Currently not available</p>
Keep people away. Avoid contact with solid and dust. Avoid inhalation. Notify local health and pollution control agencies. Protect water intakes.				8. HAZARD CLASSIFICATIONS	
Fire	Not flammable.				<p>8.1 49 CFR Category: Not listed.</p> <p>8.2 49 CFR Class: Not pertinent</p> <p>8.3 49 CFR Package Group: Not listed.</p> <p>8.4 Marine Pollutant: No</p> <p>8.5 NFPA Hazard Classification: Not listed</p> <p>8.6 EPA Reportable Quantity: 1000 pounds</p> <p>8.7 EPA Pollution Category: C</p> <p>8.8 RCRA Waste Number: Not listed</p> <p>8.9 EPA FWPCA List: Yes</p>
Exposure	CALL FOR MEDICAL AID. DUST Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. If 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 Irritating to skin and eyes. If swallowed will cause nausea and vomiting. 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.				<p>9. PHYSICAL & CHEMICAL PROPERTIES</p> <p>9.1 Physical State at 15°C and 1 atm: Solid</p> <p>9.2 Molecular Weight: 392.16</p> <p>9.3 Boiling Point at 1 atm: Not pertinent (decomposes)</p> <p>9.4 Freezing Point: Not pertinent</p> <p>9.5 Critical Temperature: Not pertinent</p> <p>9.6 Critical Pressure: Not pertinent</p> <p>9.7 Specific Gravity: 1.86 at 20°C (solid)</p> <p>9.8 Liquid Surface Tension: Not pertinent</p> <p>9.9 Liquid Water Interfacial Tension: Not pertinent</p> <p>9.10 Vapor (Gas) Specific Gravity: Not pertinent</p> <p>9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent</p> <p>9.12 Latent Heat of Vaporization: Not pertinent</p> <p>9.13 Heat of Combustion: Not pertinent</p> <p>9.14 Heat of Decomposition: Not pertinent</p> <p>9.15 Heat of Solution: Currently not available</p> <p>9.16 Heat of Polymerization: Not pertinent</p> <p>9.17 Heat of Fusion: Currently not available</p> <p>9.18 Limiting Value: Currently not available</p> <p>9.19 Reid Vapor Pressure: Currently not available</p>
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.				9. NOTES
1. CORRECTIVE RESPONSE ACTIONS Dilute and disperse Stop discharge		<p>2. CHEMICAL DESIGNATIONS</p> <p>2.1 CG Compatibility Group: Not listed.</p> <p>2.2 Formula: $\text{Fe}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$</p> <p>2.3 IMO/UN Designation: Not listed</p> <p>2.4 DOT ID No.: 9122</p> <p>2.5 CAS Registry No.: 10045-89-3</p> <p>2.6 NAERG Guide No.: 171</p> <p>2.7 Standard Industrial Trade Classification: 52349</p> <p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Dust mask; goggles or face shield; protective gloves</p> <p>3.2 Symptoms Following Exposure: Inhalation of dust irritates nose and throat. Ingestion causes irritation of mouth and stomach. Dust irritates eyes and can irritate skin on prolonged contact.</p> <p>3.3 Treatment of Exposure: INGESTION: give large amount of water; induce vomiting if large amounts have been swallowed. EYES or SKIN: flush with water.</p> <p>3.4 TLV-TWA: 1 mg/m³ (as iron)</p> <p>3.5 TLV-STEL: Not listed.</p> <p>3.6 TLV-Ceiling: Not listed.</p> <p>3.7 Toxicity by Ingestion: Grade 2; LD₅₀ = 0.5-5 g/kg (rat)</p> <p>3.8 Toxicity by Inhalation: Currently not available.</p> <p>3.9 Chronic Toxicity: May cause eye degeneration in rabbits</p> <p>3.10 Vapor (Gas) Irritant Characteristics: Currently not available</p> <p>3.11 Liquor or Solid Characteristics: Currently not available</p> <p>3.12 Odor Threshold: Currently not available</p> <p>3.13 IDLH Value: Not listed.</p> <p>3.14 OSHA PEL-TWA: Not listed.</p> <p>3.15 OSHA PEL-STEL: Not listed.</p> <p>3.16 OSHA PEL-Ceiling: Not listed.</p> <p>3.17 EPA AEGL: Not listed</p>	<p>4. WATER POLLUTION</p> <p>6.1 Aquatic Toxicity: Currently not available</p> <p>6.2 Waterfowl Toxicity: Currently not available</p> <p>6.3 Biological Oxygen Demand (BOD): Currently not available</p> <p>6.4 Food Chain Concentration Potential: None</p> <p>6.5 GESAMP Hazard Profile: Not listed</p>		

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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
	NOT PERTINENT		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

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
34	13.280		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT
36	14.050						
38	14.830						
40	15.610						
42	16.390						
44	17.170						
46	17.940						
48	18.720						
50	19.500						
52	20.280						
54	21.050						
56	21.830						
58	22.610						
60	23.390						
62	24.170						
64	24.940						
66	25.720						
68	26.500						
70	27.280						
72	28.050						
74	28.830						
76	29.610						
78	30.390						
80	31.170						
82	31.940						
84	32.720						