

FERRIC SULFATE

FSF

| CAUTIONARY RESPONSE INFORMATION | | | |
|--|---|---------------|----------|
| Common Synonyms Iron sesquisulfate Iron (III) sulfate Iron tersulfate | Solid | Gray to white | Odorless |
| Keep people away. Avoid contact with solid and dust. Avoid inhalation. Notify local health and pollution control agencies. Protect water intakes. | | | |
| Fire | Not flammable. | | |
| 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. | | |
| Water Pollution | Dangerous to aquatic life in high concentrations. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes. | | |

| 1. CORRECTIVE RESPONSE ACTIONS | 2. CHEMICAL DESIGNATIONS |
|--|---|
| Dilute and disperse Stop discharge | 2.1 CG Compatibility Group: Not listed. 2.2 Formula: $\text{Fe}_2(\text{SO}_4)_3$ 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: 9121 2.5 CAS Registry No.: 10028-22-5 2.6 NAERG Guide No.: 171 2.7 Standard Industrial Trade Classification: 52349 |
| 3. HEALTH HAZARDS | |
| 3.1 Personal Protective Equipment: Dust mask; goggles or face shield; protective gloves | |
| 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. | |
| 3.3 Treatment of Exposure: INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting if large amounts have been swallowed. EYES: flush with water; get medical attention if irritation persists. SKIN: flush with water. | |
| 3.4 TLV-TWA: 1 mg/m³ (as iron) | |
| 3.5 TLV-STEL: Not listed. | |
| 3.6 TLV-Ceiling: Not listed. | |
| 3.7 Toxicity by Ingestion: Currently not available | |
| 3.8 Toxicity by Inhalation: Currently not available. | |
| 3.9 Chronic Toxicity: Currently not available | |
| 3.10 Vapor (Gas) Irritant Characteristics: Currently not available | |
| 3.11 Liquor or Solid Characteristics: Currently not available | |
| 3.12 Odor Threshold: Currently not available | |
| 3.13 IDLH Value: Not listed. | |
| 3.14 OSHA PEL-TWA: Not listed. | |
| 3.15 OSHA PEL-STEL: Not listed. | |
| 3.16 OSHA PEL-Ceiling: Not listed. | |
| 3.17 EPA AEGL: Not listed | |

| 4. FIRE HAZARDS | 7. SHIPPING INFORMATION |
|---|--|
| 4.1 Flash Point: Not flammable | 7.1 Grades of Purity: Anhydrous; Hydrate, 73%; sometimes shipped as water solutions, which are acidic. |
| 4.2 Flammable Limits in Air: Not flammable | 7.2 Storage Temperature: Ambient |
| 4.3 Fire Extinguishing Agents: Not pertinent | 7.3 Inert Atmosphere: No requirement |
| 4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent | 7.4 Venting: Open |
| 4.5 Special Hazards of Combustion Products: Currently not available | 7.5 IMO Pollution Category: Currently not available |
| 4.6 Behavior in Fire: Currently not available | 7.6 Ship Type: Currently not available |
| 4.7 Auto Ignition Temperature: Not pertinent | 7.7 Barge Hull Type: Currently not available |
| 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 | |
| 8. HAZARD CLASSIFICATIONS | 9. PHYSICAL & CHEMICAL PROPERTIES |
| 8.1 49 CFR Category: Not listed. | 9.1 Physical State at 15°C and 1 atm: Solid |
| 8.2 49 CFR Class: Not pertinent | 9.2 Molecular Weight: 399.88 |
| 8.3 49 CFR Package Group: Not listed | 9.3 Boiling Point at 1 atm: Not pertinent (decomposes) |
| 8.4 Marine Pollutant: No | 9.4 Freezing Point: Not pertinent |
| 8.5 NFPA Hazard Classification: Not listed | 9.5 Critical Temperature: Not pertinent |
| 8.6 EPA Reportable Quantity: 1000 pounds | 9.6 Critical Pressure: Not pertinent |
| 8.7 EPA Pollution Category: C | 9.7 Specific Gravity: 3.1 at 20°C (solid) |
| 8.8 RCRA Waste Number: Not listed | 9.8 Liquid Surface Tension: Not pertinent |
| 8.9 EPA FWPCA List: Yes | 9.9 Liquid Water Interfacial Tension: Not pertinent |
| 5. CHEMICAL REACTIVITY | 9.10 Vapor (Gas) Specific Gravity: Not pertinent |
| 5.1 Reactivity with Water: No reaction | 9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent |
| 5.2 Reactivity with Common Materials: Corrosive to copper, copper alloys, mild steel, and galvanized steel. | 9.12 Latent Heat of Vaporization: Not pertinent |
| 5.3 Stability During Transport: Stable | 9.13 Heat of Combustion: Not pertinent |
| 5.4 Neutralizing Agents for Acids and Caustics: Flush with water | 9.14 Heat of Decomposition: Not pertinent |
| 5.5 Polymerization: Not pertinent | 9.15 Heat of Solution: -53.3 Btu/lb = -29.6 cal/g = -1.24 X 10⁵ J/kg |
| 5.6 Inhibitor of Polymerization: Not pertinent | 9.16 Heat of Polymerization: Not pertinent |
| 6. WATER POLLUTION | 9.17 Heat of Fusion: Currently not available |
| 6.1 Aquatic Toxicity: 0.716 ppm/12-24 hr/shiners, carp, suckers/killed/fresh water 133 ppm/48 hr/mosquito fish/TL ₅₀ /fresh water | 9.18 Limiting Value: Currently not available |
| 6.2 Waterfowl Toxicity: Currently not available | 9.19 Reid Vapor Pressure: Currently not available |
| 6.3 Biological Oxygen Demand (BOD): None | |
| 6.4 Food Chain Concentration Potential: None | |
| 6.5 GESAMP Hazard Profile: Not listed | |

NOTES

FERRIC SULFATE

FSF

| 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 |
| VERY SOLUBLE | | | NOT PERTINENT | | NOT PERTINENT | | NOT PERTINENT |