

FERRIC CHLORIDE

FCL

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS	7. SHIPPING INFORMATION
Common Synonyms Ferric chloride, anhydrous Ferric chloride, hexahydrate Iron(III) chloride Iron perchloride Iron trichloride	Solid	Greenish black	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: Currently not available</p> <p>4.5 Special Hazards of Combustion Products: Irritating hydrogen chloride fumes may form in fire.</p> <p>4.6 Behavior in Fire: Currently not available</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: Anhydrous; Hydrate; Reagent; 46% solution in water</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: C</p> <p>7.6 Ship Type: 3</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: Corrosive material</p> <p>8.2 49 CFR Class: 8</p> <p>8.3 49 CFR Package Group: III</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	<p>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.</p> <p>SOLID Will burn 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 or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p>				<p>9. PHYSICAL & CHEMICAL PROPERTIES</p> <p>9.1 Physical State at 15° C and 1 atm: Solid</p> <p>9.2 Molecular Weight: 162.22 (anhydrous)</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: 2.8 at 20°C (anhydrous 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: (anhydrous) ~360 Btu/lb = ~200 cal/g = ~8.4 X 10⁵ J/kg</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	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.				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: FeCl₃ or FeCl₃·6H₂O</p> <p>2.3 IMO/UN Designation: 8/1773</p> <p>2.4 DOT ID No.: 1773</p> <p>2.5 CAS Registry No.: 7705-08-0</p> <p>2.6 NAERG Guide No.: 157</p> <p>2.7 Standard Industrial Trade Classification: 52329</p>				6. WATER POLLUTION
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Dust respirator if required; rubber apron and boots; chemical worker's goggles or face shield</p> <p>3.2 Symptoms Following Exposure: Inhalation of dust may irritate nose and throat. Ingestion causes irritation of mouth and stomach. Dust irritates eyes. Prolonged contact with skin causes irritation and burns.</p> <p>3.3 Treatment of Exposure: INGESTION: give large amounts of water; induce vomiting if large amounts have been swallowed. EYES: immediately flush with plenty of water for at least 15 min.; get medical attention promptly. 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: Currently not available</p> <p>3.10 Vapor (Gas) Irritancy Characteristics: Not pertinent</p> <p>3.11 Liquid 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>					

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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	75.599		NOT		NOT		NOT
36	76.799						
38	78.000						
40	79.200						
42	80.400		PERTINENT		PERTINENT		PERTINENT
44	81.599						
46	82.799						
48	84.000						
50	85.200						
52	86.400						
54	87.599		PERTINENT		PERTINENT		PERTINENT
56	88.799						
58	90.000						
60	91.200						
62	92.400						
64	93.599						
66	94.799						
68	96.000						
70	97.200						
72	98.400						
74	99.599						
76	100.799						
78	102.000						
80	103.200						
82	104.400						
84	105.599						