

Material Safety Data Sheet

Revision Issued: 5/28/2008 Supersedes: 7/06/2000 First Issued: 9/24/1992

Section I - Chemical Product And Company Identification

Product Name: Ferric Chloride

CAS Number: 7705-08-0

HBCC MSDS No. CF01000



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Section II - Composition/Information On Ingredients

Chemical Name	CAS Number	%	Exposure Limits (TWAs) in Air		
			ACGIH TLV	OSHA PEL	STEL
Ferric Chloride	7705-08-0	39-44	1 mg/m ³	1 mg/m ³	N/A

Section III - Hazard Identification

Routes of Exposure: Ferric Chloride can affect the body if it is ingested or if it comes in contact with the eyes or skin.

Summary of Acute Health Hazards

Ingestion: This material is toxic by ingestion. May result in severe liver and/or kidney damage, if swallowed, and can be fatal.

Inhalation: Inhalation of concentrated mist or vapor may cause irritation of the respiratory tract.

Skin: Contact may include irritation with dryness, discomfort or rash. Ferric chloride has been infrequently associated with skin sensitization in humans. Extensive exposure could lead to skin sensitization.

Eyes: Contact with eyes can result in visual loss unless removed quickly by thorough irrigation with water.

Signs and Symptoms of Exposure: Repeated exposure to large amounts of Ferric Chloride may increase irritation.

Effects of Overexposure: Symptoms of Ingestion: Abdominal pain, and prolonged vomiting may begin up to one hour after ingestion of excessive quantities of soluble iron salts. Hematemesis, dehydration, shock, pallor, cyanosis, hypothermia, vasomotor instability, and coma may follow. If death is not immediate, it may occur 1-3 days later, survivors may develop reversible hemorrhagic necrosis. Gastric scarring may occur after 4 weeks. Pyloric stenosis and mild hepatic cirrhosis may persist.

Medical Conditions Generally Aggravated by Exposure: N/A

Note to Physicians: N/A

Section IV - First Aid Measures

Ingestion: If ingested give 1 or 2 glasses of water. DO NOT INDUCE VOMITING. OBTAIN MEDICAL ATTENTION IMMEDIATELY.

Inhalation: Remove to fresh air. Keep warm and quiet. Consult physician.

Skin: Flush with water for 30 minutes. Remove contaminated clothing.

Eyes: Immediately, flush with large amounts of water for at least 15 minutes while holding eyelids apart. Washing within one minute is essential to achieve maximum effectiveness. Get immediate medical attention after flushing.

Section V - Fire Fighting Measures

Flash Point: N/A

Autoignition Temperature: N/A

Lower Explosive Limit: N/A

Upper Explosive Limit: N/A

Unusual Fire and Explosion Hazards: Closed containers exposed to heat may explode

Extinguishing Media: Use water spray, fog, foam, dry chemical, CO₂ or other agents as appropriate for surrounding fire.

Special Firefighting Procedures: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in a positive pressure mode. Move exposed containers from fire area if it can be done without risk. Use water to keep fire-exposed containers cool. During fire, irritating and toxic gases of hydrogen chloride may be generated by thermal decomposition.

Section VI - Accidental Release Measures

Contain spill in order to prevent contamination of waterway; neutralize with lime or soda ash. Flush with water in accordance with applicable regulations to waste treatment system. Avoid runoff into storm sewers and ditches which lead to waterways.

Section VII - Handling and Storage

Store away from heat, strong alkalis (such as caustic soda and alkali metals). Keep containers closed and dry. Protect container from physical damage. Use handling equipment (pumps, hoses, etc.) compatible with product, i.e., polyethylene, polypropylene, PVC, Teflon, rubber, FRP, and titanium. Avoid contact with bare metals other than titanium. Avoid breathing vapors and/or mist. Avoid contact with eyes and skin. Wash thoroughly after handling. Follow all MSDS/label precautions even after container is emptied because they may retain vapor and product residues.

Section VIII - Exposure Controls/Personal Protection

Respiratory Protection: NIOSH/MSHA approved respirator if exposure may, or does exceed occupational exposure limits. Generally, a dust/mist respirator may be worn in areas where the TLV is exceeded up to ten times. Alternatively, a supplied air full facepiece respirator or air-lined hood may be worn.

Ventilation: A system of local exhaust is recommended to keep employee exposure below the airborne exposure limits. Local exhaust is usually preferred because it controls the emission at its source, preventing dispersion of it into the general work area. Refer to the ACGIH document "Industrial Ventilation, a Manual of Recommended Practices" for details.

Protective Clothing: Impervious rubber gloves.

Eye Protection: Chemical splash goggles or face shield. Contact lenses should not be worn when working with this material.

Other Protective Clothing or Equipment: Rubber boots, rain suit or rubber apron, face shield.

Work/Hygienic Practices: An eye wash and safety shower should be readily accessible. Wash hands thoroughly with soap and water before eating, drinking, smoking or using toilet facilities. Do NOT place food, coffee or other drinks in the area where dusting or splashing of solutions is possible.

Section IX - Physical and Chemical Properties

Physical State: Liquid
Melting Point/Range: 30.2°F
Appearance/Color/Odor: Reddish-Brown with a slightly iron/acid odor
Solubility in Water: Miscible
Specific Gravity (Water=1): 40% solution = 1.432 at 17.5°C (63.5°F)
Vapor Density (Air=1): Only water vaporizes
How to detect this compound : N/A

pH: < 2
Boiling Point/Range: 230°F (110°C)
Vapor Pressure(mmHg): 20mm @ 60°C (140°F) (of HCL only)
Molecular Weight: 162.24
% Volatiles: 65% by weight

Section X - Stability and Reactivity

Stability: Stable
Conditions to Avoid: N/A
Materials to Avoid: Most common metals, aluminum strong bases, strong oxidizing agents, potassium
Hazardous Decomposition Products: When heated to decomposition, emits toxic hydrogen chloride or chlorine.

Hazardous Polymerization: Will Not Occur

Section XI - Toxicological Information

Immediate effects: Can causes ever liver and/or kidney damage if swallowed, and may even be fatal.

Section XII - Ecological Information

Fat Head Minnows LC50 > 1000 ppm; Daphnia Magna LC > 1000 ppm

Section XIII - Disposal Considerations

Dispose of spilled, neutralized, or waste product, contaminated soil and other contaminated materials in accordance with all local, state and federal regulations.

Section XIV - Transport Information

DOT Proper Shipping Name: Ferric Chloride, Solution
DOT Hazard Class/ I.D. No.: 8, UN2582, III
DOT Reportable Quantity: 1000 Pounds (454 Kilograms)

Section XV - Regulatory Information

CALIFORNIA PROPOSITION 65: WARNING
This product may contain a chemical known to the State of California to

cause cancer, or birth defects, and/or other reproductive harm.

CERCLA Reportable Quantity: 1000 Pounds (454 Kilograms)

NFPA Rating: Health - 3; Flammability - 0; Stability - 1

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

Carcinogenicity Lists: No **NTP:** No **IARC Monograph:** No **OSHA Regulated:** No

Section 313 Supplier Notification: This product contains the following toxic chemical(s) subject to the reporting requirements of SARA TITLE III Section 313 of the Emergency Planning and Community Right-To Know Act of 1986 and of 40 CFR 372:

<u>CAS #</u>	<u>Chemical Name</u>	<u>% By Weight</u>
7647-01-0	Hydrochloric Acid	1

Section XVI - Other Information

Synonyms/Common Names: Ferric Chloride, Iron (III) Solution, Ferric Trichloride

Chemical Family/Type: Ferric Chloride

Section changed since last revision: II – XII, XV

IMPORTANT! Read this MSDS before use or disposal of this product. Pass along the information to employees and any other persons who could be exposed to the product to be sure that they are aware of the information before use or other exposure. This MSDS has been prepared according to the OSHA Hazard Communication Standard [29 CFR 1910.1200]. The MSDS information is based on sources believed to be reliable. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse are beyond our control, **Hill Brothers Chemical Company** makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Also, additional information may be necessary or helpful for specific conditions and circumstances of use. It is the user's responsibility to determine the suitability of this product and to evaluate risks prior to use, and then to exercise appropriate precautions for protection of employees and others.