Material Safety Data Sheet (MSDS)
Ferric Chloride Solution

Section 1 - Chemical Product and Company Identification

Product Name : Ferric Chloride Solution
Chemical Family : Inorganic Iron Salts
Product Use : Water Treatment Chemical
CAS No. : 7705-08-0
Product Formula : FeCl3
Manufacturer's Name : THE BTTCO OVERSEAS
Manufacturer Address : 6, ASHIRVAD COMPLEX,
NR. SARDAR PATEL SEVA SAMAJ HALL,
NAVRANGPURA, AHMEDABAD – 380009
Telephone Number : +91-9426596891

Section 2 - Composition/Information On Ingredients

Ingredient	CAS	WT %	ACGIH TLV	OSHA PEL	STEL
Water	7732-18-5	58-72%	NA	NA	NA
Ferric Chloride	7705-08-0	28-42%	1 mg/m3	1 mg/m3	NA
Ferrous Chloride	7758-94-3	<0.5%	1 mg/m3	1 mg/m3	NA
Hydrochloric Acid	7647-01-0	<0.5%	5 ppm	5 ppm	NA

Section 313 Supplier Notification : The hydrochloric acid mentioned above is subject to the reporting requirements of SARA TITLE III Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). This notification must be included in all MSDS's that are copied and distributed for this material.

Section 3 - Hazard Identification

Emergency Overview : A corrosive chemical. Harmful or fatal if swallowed. Harmful if inhaled. Eye or skin contact may cause irritation. Contact with liquid or vapor

form of this chemical may cause severe injury or death. Avoid overexposure. Fire and Explosion.

Appearance and Odor : Reddish-brown liquid with a slightly acidic odor.

Hazards : Substance itself does not burn, but may decompose upon heating to produce corrosive and/or toxic fumes, such as hydrogen chloride and phosgene gas. Ferric chloride can react with metals to form flammable and potentially explosive hydrogen gas.

Carcinogenicity : None of the components of this material are listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.

Summary of Acute Health Hazards

Eye Contact : Irritation and possibly burns

Skin Contact : Irritation and possibly burns.

Inhalation : May cause irritation of the upper respiratory tract, resulting in difficulty breathing.

Ingestion : Toxic by ingestion. May cause irritation to the mouth and stomach. Higher doses may lead to abnormal liver function with nausea or vomiting, stomach pain, diarrhea, fast and weak pulse, lethargy, pallor, shock, hypertension, dilated pupils, fever, coma and even death. Individuals with pre-existing liver diseases may have increased susceptibility to the toxicity of exposure.

Section 4 - First Aid Measures

Eye Contact : First Aid Immediately flush eyes for 15 minutes with large amounts of water while holding eyelids apart. Washing within one minute is essential to achieve maximum effectiveness. Obtain medical attention IMMEDIATELY after flushing.

Skin Contact : First Aid Flush skin with water. Remove contaminated clothing; wash before reuse. If irritation is still present, seek medical attention IMMEDIATELY.

Inhalation : First Aid Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Obtain medical attention IMMEDIATELY.

Ingestion First Aid : DO NOT INDUCE VOMITING. Give 1 or 2 glasses of water or milk. Never give anything by mouth to an unconscious individual. Obtain medical attention IMMEDIATELY.

Section 5 - Fire Fighting Measures

Flash Point : Not applicable
Upper/Lower Explosion Limits in Air : Not applicable
Auto Ignition Temperature : Not applicable
Extinguishing Media : Will not burn; use materials appropriate for surrounding fire.
Fire and Explosion Hazards : Substance itself does not burn, but may decompose upon heating to produce corrosive and/or toxic fumes, such as hydrogen chloride and phosgene gas. Ferric chloride can react with metals to form flammable and potentially explosive hydrogen gas.
Fire Fighting Instructions : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face-piece 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 and tanks cool.
Hazardous Product of Decomposition or Combustion : Hydrogen chloride, hydrogen, phosgene.

	NFPA Rating	HMIS Rating	4=Extreme /Severe
Health	2	2	3=High / Serious
Reactivity	0	0	2 =Moderate
Flammability	0	0	1=Slight

Section 6 - Accidental Release Measures

Review safety precautions before proceeding with cleanup. Use appropriate personal protection equipment. Do not touch spilled material. Neutralize spill with lime (calcium hydroxide), limestone (calcium carbonate), or soda ash (sodium carbonate). Restrict access to area until completion of clean up.

Caution : limestone and soda ash will evolve CO2; ventilation should be provided in enclosed areas. Dike area around spill to prevent spreading, and use absorbent material to pick up spill.

CERCLA Reportable Discharge (RQ) : 1000 lbs. (454 kg), Based on anhydrous ferric chloride. Divide by solution concentration to obtain solution weight.

Disposal : Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine whether a substance should be classified as a hazardous waste at the time of disposal. This is due to the fact that product use, transformation, synthesis, mixtures, etc. may change the nature of the product. Dispose of waste in accordance with applicable federal, state, and local laws.

RCRA : Test waste material for corrosivity, DOO2, prior to disposal.
Steps to Be taken In Case Material Is Released Or Spilled: Notify the appropriate environmental authorities. Note that spills may Need to be reported to the National Response Center (800) 424-8802).

Section 7 - Handling And Storage

Handing : Store and handle in corrosion-proof materials (and area). Use FRP or PVC pipes. Be cautious of substance residue in empty containers. Act according to precautions and warnings set forth.

Storage : Store in a tightly closed container. Do not store in metal containers. Fiberglass, plastic, or rubber-lined tanks may be used for storage. Protect from damage and keep separated from incompatible substances.

Section 8 - Exposure Controls And Personal Protection

Eye Protection : Wear splash resistant goggles and/or safety glasses with side shields. Wear a full face shield if possibility of material splashing or spraying exists. Maintain eye wash fountain. Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather. Customer Service 800-864-1742 FAX 888-273-6226.

Skin Protection : Where there is possibility of skin contact, use the following as appropriate, to avoid skin contact: gloves impervious to material, apron, boots, hood, pants, and jacket. Maintain a safety shower with quick opening valves. Water should be supplied through insulated and heat-traced lines to prevent freeze-ups in cold weather.

Respiratory Protection : Adequate general ventilation should be provided to keep vapour and mists below exposure limits. The exposure limits for some components are listed in Section 2. Wear a NIOSH/OSHA approved respirator with a dust/mist cartridge if there is potential of exposure to mists in excess of applicable limits, in any situation where product vapor or mists may be present, such as in confined spaces.

Section 9 - Physical And Chemical Properties

Boiling Point : 106°C (223°F)
Melting Point : Not Available
Sp. Gravity : 1.2-1.6
% Volatile : 60-75 (water)
Vapor Density (Air =1) : Not Available
Appearance : Red/Brown Coloured Liquid
pH : <2.0
Solubility in Water : Complete
Vapor Pressure : 40mm Hg @ 20oC
Evaporation Rate : 162.2
Molecular Weight : 162.2
Odor : Slightly Acid

Section 10 - Stability And Reactivity

Stability : Stable at normal conditions
Polymerization : Will not occur.
Decomposition : Decomposes upon heating to produce corrosive and/or toxic fumes, such as hydrogen chloride. Contact with metals may evolve flammable hydrogen gas.

Incompatibility : Rapidly corrodes most metals (titanium is one exception); may generate flammable, potentially explosive hydrogen gas. Avoid contact with nylon, aluminum/aluminum alloys, carbon steel, stainless steel,

and copper / copper alloys. Metals, bases, halocarbons, acids, and combustible materials can be considered incompatible.

Section 11 - Toxological Information

Chronic Effects : Repeated dosage may cause hemosiderosis, including possible damage to liver and pancreas.

Toxicological Data : Anhydrous Ferric Chloride Solid Oral LD50 (rat) = 450 mg/kg

Carcinogenicity : None of the components of this material are listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.

Reproductive Effects : TDLo Rat 1 day (intratesticular) 12976 !"/!"; TDLo Rat 1 day (intravaginal) 29 mg/kg pre pregnancy continuous.

Target Organs : No data available

Section 12 - Ecological Information

Eco toxicological Information: TLm Daphnia 15 ppm/96 hr fresh water/ conditions of bioassay not specified.

Persistence and Degradation: No data available.

Section 13 - Disposal Considerations

Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user to determine whether a substance should be classified as a hazardous waste at the time of disposal. This is due to the fact that product use, transformation, synthesis, mixtures, etc. may change the nature of the product. Product containers should be thoroughly emptied before disposal. Dispose of waste in accordance with applicable federal, state, and local laws.

Section 14 - Transportation Information

DOT Shipping Proper Name : Ferric Chloride Solution
Hazard Class : 8 – Corrosive Material
UN Number : UN 2582
Packing Group : III

Reportable Quantity : 1000 lbs (454 kg)
Shipping Containers : Rubber-lined steel tank cars/trucks; polyethylene drums, bottles
Storage Conditions : Keep containers closed

Section 15 - Regulatory Information

OSHA : Hazardous Corrosive Liquid – 29 CFR 1920.1200 OSHA Process Safety (29 CFR 1910.119): No CERCLA: Hazardous Substance – Reportable Quantity (RQ) = 1000 lbs (454 kg)

SARA Regulations : 313 and 40 CFR 372: No SARA Hazard Categories, SARA Sections 311/312 (40 CFR 370.21): Acute: Yes; Chronic: No; Fire: No; Reactive: No; Sudden Release: No

Clean Water Act : Designated as a hazardous substance under Section 311(b)(2)(A) of the Federal Water Pollution Control Act; ferric chloride is also regulated by the Clean Water Act Amendments of 1977 and 1978. This chemical is subject to regulations regarding its discharge.

TSCA Inventory Status : Yes

California Proposition 65 : No

Right-To-Know Lists : Massachusetts, California, Pennsylvania, New Jersey. This substance does not contain nor is manufactured with ozone depleting substances.

Section 16 - Other Information

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. BTTCO provides the information contained in each material safety data sheet ("MSDS"), technical data sheet ("TDS"), product information brochure and/or information contained herein (including data and statements) in good faith and makes no representations as to its comprehensiveness or accuracy as of the date of publication. The MSDSs, TDSs, and product information brochures are referred to collectively as the "Data Sheets". It is the responsibility of the user to obtain and use the most recent version of the Data Sheets. Each Data Sheet relates only to the specific product designated therein and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use of the product and information are beyond the control of BTTCO, BTTCO expressly disclaims any and all liability as to any

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Date: 01.04.2025
Place: Ahmedabad, Gujarat, India