



MATERIAL SAFETY DATA SHEET

SECTION 1 - CHEMICAL PRODUCT & COMPANY IDENTIFICATION:

Product Name: Ferric Chloride Solution

Trade Name: Same

Product Use: Industrial applications: Wastewater treatment, purifying factory effluents and printing textiles, pigments and inks, photo engraving.

Emergency Phone Number
877-378-7745

Effective Date: May 4, 2016

Supplier Name & Address:
FLOCHEM LTD.
6986 Wellington Rd. 124,
Guelph, Ontario, N1H 6J4

SECTION 2 - COMPOSITION/INFORMATION INGREDIENTS:

<u>Ingredients</u>	<u>CAS</u>	<u>%RANGE</u>	<u>TLV/PEL</u>	<u>LC50/LD50</u>
Ferric Chloride	7705-08-0	37-45	TWA: 1 CEIL: 2 (mg/m ³)	ORAL (LD50): Acute: 450
Balance - Water				

SECTION 3 - HAZARDS IDENTIFICATION:

Route of Entry:

Potential Acute Health Effects: Very hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion, and of inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over exposure can result in death. **Can be fatal if inhaled or ingested.** Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects: Extremely hazardous in case of skin contact (corrosive). **Carcinogenic effects:** Not available, **Mutagenic effects:** Not available, **Teratogenic effects:** Not available, **Developmental toxicity:** Not available. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial may produce general deterioration of health by an accumulation in one or many human organs.

(See Section 11 for Toxicological Information)

SECTION 4 - FIRST AID:

Eye Contact: Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15-20 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact: If the chemical got onto the clothed portion of the body, remove the contaminated clothes as quickly as possible, protecting your own hands and body. Place the victim under a deluge shower. If the chemical touches the victim's exposed skin, such as the hands: Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Hazardous Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: Allow the victim to rest in a well-ventilated area. Seek immediate medical attention.

Hazardous Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **Warning:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion: Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Hazardous Ingestion: No additional information.

SECTION 5 - FIRE FIGHTING MEASURES:

The Product is: Not flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not applicable.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. No specific information is available in our database regarding the product's risks of explosion in the presence of various materials.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: No additional remark.

Special Remarks on Explosion Hazards: No additional remark.

SECTION 6 - ACCIDENTAL RELEASE MEASURES:

Small Spill: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill: Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with dry earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

SECTION 7 - HANDLING & STORAGE:

Precautions: Keep locked up. Keep container dry. Do not ingest. Do not breathe gas, fumes, vapour or spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, metals, strong alkalis.

SECTION 8 - EXPOSURE CONTROLS:

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the workstation location.

Personal Protection: Chemical goggles. Vapor respirator. Be sure to use a MSHA/NIOSH approved respirator or equivalent. Impervious rubber gloves. Wear appropriate respirator when ventilation is inadequate.

Exposure Limits:

- Ferric chloride
TWA: 1 CEIL: 2 (mg/m³)
- Hydrochloric Acid
TWA: 5 CEIL: 5 (ppm)
- TWA: 7 CEIL: 7 (mg/m³)

Consult local authorities for acceptable exposure limits.

SECTION 9 - PHYSICAL PROPERTIES:

Physical State and Appearance: Liquid, reddish-brown in color.

Odour: Slightly iron/acid

pH (1% sol/water): <1 [Acidic.]

Boiling Point: 109.44°C (229°F)

Freezing Point: -15°F

Specific Gravity: 1.43 (40% solution) (Water = 1)

Dispersion Properties: See solubility in water, diethyl ether, and acetone.

Solubility: Soluble in cold water, diethyl ether, acetone.

SECTION 10 - STABILITY & REACTIVITY:

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: No additional remark.

Incompatibility with Various Substances: Highly reactive with oxidizing agents, reducing agents. Reactive with metals, strong alkalis and alkali metals.

Special Remarks on Reactivity: No additional remark.

Special Remark on Corrosivity: No additional remark.

Hazardous Polymerization: No.

Hazardous Decomposition: May release hydrogen chloride gas at elevated temperatures.

SECTION 11 - TOXICOLOGICAL INFORMATION:

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD 50): 450 mg/kg [Rat]. (Ferric chloride).

Chronic Effects on Humans: Extremely hazardous in case of skin contact (corrosive).

Carcinogenic Effects: Not available.

Mutagenic Effects: Not available.

Teratogenic Effects: Not available.

Developmental Toxicity: Not available. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to an highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Other Toxic Effects on Humans: Very hazardous in case of skin contact (corrosive, irritant), of eye contact (irritant), of ingestion, of inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over exposure can result in death. Can be fatal if inhaled or ingested.

SECTION 12 - ECOLOGICAL CONSIDERATIONS:

Ecotoxicity: Fat Head Minnows LC50 > 1000 ppm

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

SECTION 13- DISPOSAL CONSIDERATIONS:

Waste Disposal: Dispose of waste product or contaminated soil in accordance with Municipal and Provincial regulations.

SECTION 14 - TRANSPORT INFORMATION:

Shipping Name: Ferric Chloride Solution

TDG Classification: Class 8 **PIN:** UN 2582 **Packing Group:** III

SECTION 15 - REGULATORY INFORMATION:

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard. On the TSCA inventory. Components of this product are included on the Domestic Substances List.

SECTION 16 - OTHER INFORMATION:

Disclaimer:

The information contained herein is based on data considered to the best of our knowledge to be accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof.

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Last Updated: April 15, 2013

- END OF MSDS -



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