

MATERIAL SAFETY DATA SHEET



221 Rocheste
Avon, NY 144
(585) 226-617

MSDS No.: FF0102
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Approved by: James A. Bertsch

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Section 1 Chemical Product and Company Information

Product	IRON(III) CHLORIDE, 1 MOLAR SOLUTION
Synonyms	Ferric Chloride, Water Solution

CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

Section 2 Hazards Identification

Emergency Overview

DANGER! CORROSIVE!
HARMFUL IF SWALLOWED. MAY CAUSE BURNS TO SKIN, EYES AND MUCOUS MEMBRANES.
Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Target organs: Cardiovascular and central nervous systems, liver, kidneys.

0 = Minimal	<table border="1"> <tr><td>Health</td><td>2</td></tr> <tr><td>Fire</td><td>0</td></tr> <tr><td>Reactivity</td><td>0</td></tr> <tr><td>Contact</td><td>2</td></tr> </table>	Health	2	Fire	0	Reactivity	0	Contact	2
Health		2							
Fire		0							
Reactivity		0							
Contact	2								
1 = Slight									
2 = Moderate									
3 = Serious									

4 = Severe

HMIS *

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	TLV Units
Ferric chloride	7705-08-0	16.22%	TWA: 1 mg/m ³ as Iron
Water	7732-18-5	83.78%	None established.

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN CONTACT: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

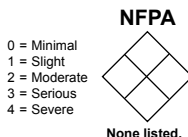
General information: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Fire or excessive heat may produce hazardous decomposition products to be produced as dust or fume. Use water spray to keep fire-exposed containers cool.

Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Flash Point: Not flammable.

Autoignition temperature: N/A

Explosion Limits: Lower: N/A **Upper:** N/A



Section 6 Accidental Release Measures

Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water. Avoid runoff into storm sewers and ditches which lead to waterways.

(2008 EMERGENCY RESPONSE GUIDEBOOK, (PHH50-ERG2008), GUIDE # 154)

Section 7 Handling & Storage CORROSIVE STORAGE CODE WHITE

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale dusts. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Physical state: Liquid.
Appearance: Yellow-orange.
Odor: No odor.
pH: N/A
Vapor pressure (mm Hg): 14 (water)
Vapor Density (Air = 1): 0.7 (water)
Evaporation rate (Water = 1): <1
Viscosity: N/A

Boiling point: ~100°C (212°F) (water)
Freezing / Melting point: ~0°C (32°F) (water)
Decomposition temperature: N/A
Solubility in water: Complete.
Specific gravity (H₂O = 1): ~1.1
Percent volatile (%): 83.78%
Molecular formula: Mixture.
Molecular weight: Mixture.

Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures which cause evaporation.

Incompatibilities with other materials: Strong oxidizing agents, metals, allyl chloride, sodium, potassium.

Hazardous decomposition products: Toxic and corrosive fumes of chlorine, hydrochloric acid, iron and/or iron oxide dust.

Section 11 Toxicological Information

Effects of overexposure: May be harmful by ingestion. May cause irritation and/or burns. To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Section 12 Ecological Information

Aquatic toxicity: Data not yet available.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information

UN/NA number: UN2582

Shipping name: Ferric chloride, solution

Hazard class: 8

Packing group: III

Exceptions: Limited quantity equal to or less than 5 Lt.

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

All as anhydrous ferric chloride: TSCA-listed, EINECS-listed(231-729-4), DSL-listed.

Section 16 Additional Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards.