

Health	3
Fire	0
Reactivity	2
Personal Protection	J

Material Safety Data Sheet Ferric Chloride - Anhydrous

Section 1 : Chemical Product and Company Identification

Product Name : Ferric Chloride - Anhydrous

CAS No : 7705-08-0

Synonym : Ferric Chloride, Iron (III) Chloride, Iron Tri Chloride

Chemical Formula : FeCl₃

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Section 2 : Composition and Information on Ingredients

Composition :

Name	CAS#	% by Weight	EINECS/ELINCS
Ferric Chloride	7705-08-0	100	231-729-4

Toxicological Data on Ingredients : Ferric Chloride: ORAL (LD50):Acute:900 mg/kg [Rat].1278 mg/kg [Mouse].

Section 3 : Hazards Identification

Emergency Overview :

Harmful if swallowed, swallowed, causes burns, deliquescent.

Potential Health Effects :

Eyes : May cause irritation.

Skin : May cause irritation.

Ingestion : May cause gastrointestinal discomfort.

Inhalation : May cause irritation to respiratory tract.

Section 4 : First Aid Measures

Emergency and First Aid Procedures :

- Eyes** : Flush with water for at least 15 minutes, raising and lowering eyelids occasionally. Get medical attention if irritation persists.
- Skin** : Thoroughly wash exposed area for at least 15 minutes. Remove contaminated clothing. Launder contaminated clothing before reuse. Get medical attention if irritation persists.
- Ingestion** : If swallowed, if conscious, give plenty of water and induce vomiting immediately as directed by medical personnel. Immediately call a physician or poison control center. Never give anything by mouth to an unconscious person.
- Inhalation** : Remove to fresh air. Give oxygen if breathing is difficult; give artificial respiration if breathing has stopped. Keep person warm, quiet, and get medical attention.

Section 5 : Fire and Explosion Data

Flash Point (Method Used) :

NFPA Rating :	Health	:	3
	Fire	:	0
	Reactivity	:	2
	Personal Protection	:	J

Extinguisher Media :

Use dry chemical, CO₂ or appropriate foam.

Flammable Limits in Air % by Volume : N/A

Autoignition Temperature : N/A

Special Firefighting Procedures :

Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Unusual Fire and Explosion Hazards :

Dissociates at high temperatures to form Ferrous Chloride and toxic and corrosive chlorine gas. Liberates hydrochloric acid fumes when damp.

Section 6 : Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Corrosive solid.

Stop leak if without risk. Do not get water inside container. Do not touch spilled material. 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 and Storage

Handling:

Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Use only in a chemical fume hood.

Storage:

Store in a cool, dry place. Store in a tightly closed container. Corrosives area.

Section 8 : Exposure Controls / Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 1 CEIL: 2 (mg/m3)

Consult local authorities for acceptable exposure limits.

Section 9 : Physical and Chemical Properties

Physical State	: Powder
Color	: Dark Green to Black
Appearance and Odor	: Dark Crystals with Slight Odor
Molecular Weight	: 162.21 g/mole
Molecular Formula	: FeCl ₃
Solubility	: Soluble in Water
pH (1% Soln/water)	: 2 (Acidic)
Specific Gravity	: 2.9 (Water = 1)
Boiling Point	: 316 deg C (600.80 deg C)
Melting Point	: 306 deg C (582.80 deg F)
Vapor Pressure	: 1hPa@20 deg C

Section 10 : Stability and Reactivity Data

Chemical Stability: Stable.

Conditions to Avoid:

Incompatible materials, dust generation, excess heat, exposure to moist air or water.

Incompatibilities with Other Materials:

Strong oxidizing agents, alkali metals, allyl chloride, ethylene oxide, potassium, sodium.

Hazardous Decomposition Products: Hydrogen chloride, oxides of iron

Hazardous Polymerization: Will not occur

Section 11 : Toxicological Information

Routes of Entry:

Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 900 mg/kg [Rat].

Chronic Effects on Humans:

The substance is toxic to lungs, mucous membranes.

Other Toxic Effects on Humans:

Very hazardous in case of ingestion.

Hazardous in case of skin contact (irritant), of inhalation.

Slightly hazardous in case of skin contact (permeator).

Section 12 : Ecological Information

Ecotoxicity : Not available.

BOD5 and COD : Not available.

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 more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13 : Disposal Considerations

Waste Disposal Methods :

Dispose in accordance with all applicable Federal, State and Local regulations.

Always contact a permitted waste disposer (TSD) to assure compliance.

Section 14 : Transport Information

Shipping Name : Ferric Chloride - Anhydrous

Hazard Class : 8

UN Number : 1773

Packing Group : III

Section 15 : Other Regulatory Information

Federal and State Regulations:

Pennsylvania RTK : Ferric chloride

Massachusetts RTK : Ferric chloride

TSCA 8(b) inventory : Ferric chloride

CERCLA : Hazardous substances.: Ferric chloride

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS E: Corrosive solid.

CLASS F: Dangerously reactive material.

DSCL (EEC): R36/38- Irritating to eyes and skin.

HMIS (U.S.A.):

Health Hazard : 3

Fire Hazard : 0

Reactivity : 2

Personal Protection : j

National Fire Protection Association (U.S.A.):

Health : 3

Flammability : 0

Reactivity : 2

Specific hazard:

Protective Equipment:

Gloves.

Synthetic apron.

Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

Section 16 : Other Information

References : Not available.

Other Special Considerations : Not available.

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