

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Iron (III) Chloride Hexahydrate

Catalog Numbers:

S71934, S71935, S71935-2, I-88500, I86 10, I86 3, I86-10, I86-3, I8610,
I863, I88 100, I88 500, I88-10, I88-100, I88-3, I88-500, I88100, I88500

Synonyms:

Ferric chloride hexahydrate; ferric trichloride hexahydrate.

Company Identification: Fisher Scientific

1 Reagent Lane
Fairlawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
10025-77-1	Iron (III) chloride, hexahydrate	100	unlisted

Hazard Symbols: C
Risk Phrases: 22 34

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: yellow to brown solid.

Danger! Corrosive. Hygroscopic. May be harmful if swallowed. May cause central nervous system effects. May cause cardiac disturbances.

Causes eye and skin burns. May cause liver and kidney damage. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns.

Target Organs: Kidneys, central nervous system, liver.

Potential Health Effects

Eye:

Causes eye burns.

Skin:

Causes skin burns.

Ingestion:

May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May be harmful if swallowed.

Based upon known information concerning inorganic iron-containing substances, may cause severe digestive tract irritation with nausea, vomiting, diarrhea, and hemorrhage. May cause delayed effects including cardiovascular disturbances, liver/kidney damage, cerebral swelling, coma, and

Inhalation:

Causes chemical burns to the respiratory tract.

Chronic:

Repeated exposure may cause central nervous system damage. Repeated exposure may increase iron levels in the liver, spleen and lymphatic system. Damage may occur in the spleen and liver.

Repeated exposure may cause an increase in body iron content with possible damage to the spleen and liver.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:

Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin:

Get medical aid immediately. Immediately flush skin with plenty of

soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

Ingestion:

Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation:

Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

Treat symptomatically.

Antidote:

The use of Deferoxamine as a chelating agent should be determined only by qualified medical personnel.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Containers may explode if exposed to fire.

Extinguishing Media:

Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. Cool containers with flooding quantities of water until well after fire is out.

Autoignition Temperature: Noncombustible.

Flash Point: Noncombustible.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 0

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Do not get water inside containers.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Minimize dust generation and accumulation. Keep container tightly closed. Do not get on skin or in eyes. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.

Storage:

Keep container closed when not in use. Corrosives area. Store protected from moisture. Do not get water inside containers.

**** 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. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
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Iron (III) chloride, hexahydrate	1 mg/m3 TWA (as Fe) (listed under ** no name **).	1 mg/m3 TWA (as Fe) (listed under ** no name **).	none listed
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OSHA Vacated PELs:

Iron (III) chloride, hexahydrate:
1 mg/m3 TWA (as Fe) (listed under ** no name **)

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to minimize contact with skin.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Solid
Color: yellow to brown
Odor: odorless
pH: Not available.
Vapor Pressure: Negligible.
Vapor Density: Not available.
Evaporation Rate: Negligible.
Viscosity: Negligible.
Boiling Point: Not applicable.
Freezing/Melting Point: 536 deg F
Decomposition Temperature: 572 deg F
Solubility in water: 80% in water at 20C
Specific Gravity/Density: 1.82 (water=1)
Molecular Formula: FeCl3.6H2O
Molecular Weight: 270.2864

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid:

High temperatures, incompatible materials, moisture.

Incompatibilities with Other Materials:

Oxidizing agents, allyl chloride, potassium, sodium.

Hazardous Decomposition Products:

Hydrogen chloride, chlorine, irritating and toxic fumes and gases, chloride fumes, oxides of iron.

Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:

CAS# 10025-77-1: NO5425000

LD50/LC50:

Not available.

Carcinogenicity:

Iron (III) chloride, hexahydrate -

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology:

No information available.

Teratogenicity:

No information available.

Reproductive Effects:

No information available.

Neurotoxicity:

No information available.

Mutagenicity:

No information available.

Other Studies:

The hazards associated with lead may be seen in this product.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste.

US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT

Shipping Name: FERRIC CHLORIDE, ANHYDROUS

Hazard Class: 8

UN Number: UN1773

Packing Group: III

Canadian TDG

Shipping Name: FERRIC CHLORIDE

Hazard Class: 8(9.2)

UN Number: UN1773

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL

TSCA

CAS# 10025-77-1 is not on the TSCA Inventory because it is a hydrate.

It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 10025-77-1: acute.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

Iron (III) chloride, hexahydr can be found on the following state right to know lists: California, (listed as ** no name **), Pennsylvania, (listed as ** no name **), Minnesota, (listed as ** no name **).

California No Significant Risk Level:

None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 22 Harmful if swallowed.

R 34 Causes burns.

Safety Phrases:

S 25 Avoid contact with eyes.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 10025-77-1: No information available.

United Kingdom Occupational Exposure Limits

CAS# 10025-77-1: OES-United Kingdom, TWA (listed as ** undefined **): 1 mg/m3 TWA (as Fe)

CAS# 10025-77-1: OES-United Kingdom, STEL (listed as ** undefined **): 2 mg/m3 STEL (as Fe)

United Kingdom Maximum Exposure Limits

Canada

None of the chemicals in this product are listed on the DSL/NDSL list.

This product has a WHMIS classification of E.

CAS# 10025-77-1 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 10025-77-1: OEL-DENMARK:TWA 1 mg(Fe)/m3 JANUARY 1993

OEL-FINLAND:TWA 1 mg(Fe)/m3 JANUARY 1993

OEL-THE NETHERLANDS:TWA 1 mg(Fe)/m3 JANUARY 1993

OEL-SWITZERLAND:TWA 1 mg(Fe)/m3 JANUARY 1993

OEL-UNITED KINGDOM:TWA 1 mg(Fe)/m3;STEL 2 mg(Fe)/m3 JANUARY 1993

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 12/12/1997 Revision #2 Date: 5/07/2001

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.
