Fisher Scientific

MATERIAL SAFETY DATA SHEET
Iron(III) chloride hexahydrate

Section 1 - Chemical Product and Company Identification

MSDS Name: Iron(III) chloride hexahydrate

Catalog Numbers: I/1020/60, I/1020/65, I/1025/53, I/1025/60, I/1025/71

Synonyms: Ferric chloride hexahydrate; ferric trichloride hexahydrate.

Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG

For information in Europe, call: (01509) 231166

Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
10025-77-1	Iron(III) chloride, hexahydrate	97-100	unlisted		

Text for R-phrases: see Section 16

Hazard Symbols: C

Risk Phrases: 22 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Harmful if swallowed. Causes burns.

Potential Health Effects

Eye: Causes eye burns.

Skin: Causes skin burns.

Ingestion: Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns.

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.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

Skin: Get medical aid immediately. Immediately flush skin with plenty of 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 and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician:

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.

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.

Section 6 - Accidental Release Measures

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

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. 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. Use only in a chemical fume hood. Discard contaminated shoes.

Storage: Keep container closed when not in use. Corrosives area. Store protected from moisture. Do not get water inside containers. Store in a cool, dry 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. Use adequate ventilation to keep airborne concentrations low. Use only under a chemical fume hood.

Exposure Limits

CAS# 7705-08-0:

Belgium - TWA: (iron salts (soluble)): 1 mg/m3 TWA (as Fe)

Malaysia: (iron salts (soluble)): 1 mg/m3 TWA (as Fe)
Netherlands: (iron salts (soluble)): 0.1 mg/m3 MAC (as Fe)
Spain: (iron salts (soluble)): 1 mg/m3 VLA-ED (as Fe)

CAS# 10025-77-1:

Belgium - TWA: (iron salts (soluble)): 1 mg/m3 TWA (as Fe)

Malaysia: (iron salts (soluble)): 1 mg/m3 TWA (as Fe)
Netherlands: (iron salts (soluble)): 0.1 mg/m3 MAC (as Fe)
Spain: (iron salts (soluble)): 1 mg/m3 VLA-ED (as Fe)

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 respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Color: yellow to brown

Odor: odorless

pH: 2 (0.1M in water)

Vapor Pressure: Negligible.

Viscosity: Negligible.

Boiling Point: 280 - 285 deg C

Freezing/Melting Point: 37 deg C (98.60°F)

Autoignition Temperature: Noncombustible.

Flash Point: Noncombustible.

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

Decomposition Temperature: Not available

Solubility in water: 920 g/l (20°C)

Specific Gravity/Density: 1.82 (water=1)

Molecular Formula: FeCl3.6H2O

Molecular Weight: 270.2864

Section 10 - Stability and Reactivity

Chemical Stability: Hygroscopic: absorbs moisture or water from the air.

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

Incompatibilities with Other Materials Oxidizing agents, alkali metals, allyl chloride, ethylene oxide, potassium, sodium.

Hazardous Decomposition Products Hydrogen chloride, chlorine, chloride fumes, oxides of iron.

Hazardous Polymerization Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 7705-08-0: LJ9100000
CAS# 10025-77-1: NO5425000

LD50/LC50: RTECS:
CAS# 7705-08-0: Oral, mouse: LD50 = 200 mg/kg;
Oral, rat: LD50 = 316 mg/kg;
.
RTECS:
CAS# 10025-77-1:.

Carcinogenicity: Ferric chloride, anhydrous - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Iron(III) chloride, hexahydrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Other: Avoid entering into waters or underground water.

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.*	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Hazard Class:	8	8	8
UN Number:	3260	3260	3260
Packing Group:	III	III	III

USA RQ: CAS# 7705-08-0: 1000 lb final RQ; 454 kg final RQ

Section 15 - Regulatory Information

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 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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# 7705-08-0: 1

CAS# 10025-77-1: Not available

Canada

CAS# 7705-08-0 is listed on Canada's DSL List

US Federal

TSCA

CAS# 7705-08-0 is listed on the TSCA Inventory.

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 in on the Inventory (40CFR720.3(u)(2)).

Section 16 - Other Information

Text for R-phrases from Section 2

MSDS Creation Date: 12/12/1997

Revision #7 Date 6/01/2007

Revisions were made in Sections: 3, 4, 5, 6, 7, 8, 9, 10, 12, 1

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