

Safety Data Sheet FERRIC CHLORIDE Hexahydrate

SDS no. C225KL3R • Version 1.0 • Date of issue: 2025-10-20

SECTION 1: Identification

GHS Product identifier

Product name FERRIC CHLORIDE Hexahydrate

Other means of identification

Product Product Code

Iron (III) Chloride Hexahydrate LR	FL023
Iron (III) Chloride Hexahydrate AR	FA023
Iron (III) Chloride Hexahydrate TG	FT023

Recommended use of the chemical and restrictions on use

Laboratory reagent, electroplating, stain for electron microscope, manufacture of other iron salts and chlorination of copper and silver ores.

Additional information: When used for laboratory chemical analysis, it has no poison schedule. If this compound is used in human or animal application then it may acquire a poison schedule of S6, S5, S4 or S2.

Supplier's details

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SECTION 2: Hazard identification

General hazard statement

Dangerous Goods of Class 8 Corrosives are incompatible in a placard load with any of the following: - Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are alkalis and Class 7.

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

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- Acute toxicity, oral, Cat. 4
- Skin corrosion/irritation, Cat. 1B
- Corrosive to metals, Cat. 1

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H290
H302
H314

May be corrosive to metals
Harmful if swallowed
Causes severe skin burns and eye damage

Precautionary statement(s)

P234
P260
P264
P270
P280
P301+P312
P301+P330+P331
P303+P361+P353

P304+P340
P305+P351+P338

P310
P363
P390
P405
P406
P501

Keep only in original packaging.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell,
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER/doctor/physician
Wash contaminated clothing before reuse.
Absorb spillage to prevent material-damage.
Store locked up.
Store in a corrosive resistant/... container with a resistant inner liner.
Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight	270.3
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Component	Identification	Weight %	Classifications
Iron (III), chloride, hexahydrate	CAS no.: 10025-77-1 EC no.: 231-729-4	<= 100 %	CLASSIFICATIONS: Skin corrosion/irritation, Cat. 1B; Acute toxicity, oral, Cat. 4. HAZARDS: No data available.

SECTION 4: First-aid measures

Description of necessary first-aid measures

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General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.

First Aid Facilities: Maintain eyewash fountain in work area.

If inhaled

If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

In case of skin contact

Rinse with plenty of water. Get medical attention if irritation develops and persists.

In case of eye contact

If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Obtain medical attention.

If swallowed

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Material does not burn.

Small fire: Use dry chemical, CO₂, water spray or foam.

Large fire: Use water spray, fog or foam.

Specific hazards arising from the chemical

Hazards from Combustion Products: May liberate toxic fumes in fire including hydrogen chloride and other toxic chlorine compounds.

Special protective actions for fire-fighters

Wear SCBA and structural firefighter's uniform.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Environmental precautions

Prevent from entering into drains, ditches, rivers or the sea.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

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Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Body protection

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable vapor/ mist filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements. Reference should be made to Australian Standards AS/ NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/ NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	Brownish-yellow or orange crystals or powder.
Color	No data available.
Odor	Usually slight odour of hydrogen chloride.
Odor threshold	No data available.
Melting point/freezing point	~37 °C
Boiling point or initial boiling point and boiling range	280 - 285 °C (760 mm Hg)
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	~1.8 (10 g/l, H ₂ O, 25 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Soluble in water Solubility in Organic Solvents: Readily soluble in alcohol, acetone and ether.
Partition coefficient n-octanol/water (log value)	Log P(o/w): -4 (24 °C)(anhydrous substance)
Vapor pressure	1 mm Hg (194 °C)
Evaporation rate	No data available.

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Density and/or relative density
Relative vapor density
Particle characteristics

Specific Gravity: 1.82
No data available.
No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Stable under recommended storage conditions. Hygroscopic

Possibility of hazardous reactions

Ethylene oxide polymerises explosively in the presence of ferric chloride.

Reacts with water to produce toxic and corrosive fumes.

Conditions to avoid

Strong heating, moisture.

Incompatible materials

Ethylene oxide, alkali metals, sodium/sodium oxides, potassium, and oxidising agents. forms shock-sensitive mixtures with certain other materials.

Hazardous decomposition products

Hydrochloric acid gas and iron oxides.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: Ingestion of material is corrosive causing severe burns to the mouth, throat and stomach. Symptoms include sore throat, diarrhoea, nausea, vomiting, gastrointestinal discomfort. Pink urine discoloration is a strong indicator of iron poisoning. Liver damage, coma, and death may follow, sometimes delayed as long as three days. Symptoms of the ingestion of large amounts may be delayed for several hours and can include epigastric pain, haematemesis, drop in blood pressure and possible circulatory failure. Hours or days after apparent recovery metabolic acidosis, convulsions and coma may occur. If the patient survives, symptoms of acute liver necrosis may develop and could lead to death due to hepatic coma.

Inhalation: Inhalation of material is extremely destructive to the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, irritation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

Skin corrosion/irritation

Corrosive. Skin contact causes irritation, redness, pain and severe burns. May be harmful if absorbed through the skin.

Serious eye damage/irritation

Corrosive. Contact can cause blurred vision, redness, pain and severe tissues burns. Risk of serious damage to eyes.

Respiratory or skin sensitization

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

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Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Specific target organ toxicity (STOT) - single exposure

Not classified based on available information.

Specific target organ toxicity (STOT) - repeated exposure

Not classified based on available information.

Aspiration hazard

Not classified based on available information.

Additional information

Health Hazard: Cardiovascular disorders result after absorption of large quantities.

Chronic Effects: Repeated ingestion may cause liver and kidney damage. Prolonged exposure of the eyes may cause discoloration.

Iron (III), chloride, hexahydrate: Oral, mouse: LD50 = 200 mg/kg;

Oral, rat: LD50 = 316 mg/kg;

SECTION 12: Ecological information

Toxicity

Biological Properties: Product reacts with water. The following may develop after reaction of the product with water: hydrochloric acid.

Environmental Protection: Do not allow to enter waters, waste water, or soil!

Persistence and degradability

Methods for the determination of biodegradability are not applicable to inorganic substances.

Bioaccumulative potential

Behaviour in environmental compartments:

Distribution: log P(o/w): -4 (24 °C) (anhydrous substance).

No bioaccumulation is to be expected (log P(o/w)<1).

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal

Behaviour in environmental compartments:

Distribution: log P(o/w): -4 (24 °C) (anhydrous substance).

No bioaccumulation is to be expected (log P(o/w)<1).

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

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ADG (Road and Rail)

UN Number: 3260

Class: 8

Packing Group: III

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Contains Iron (III) Chloride Hexahydrate)

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 3260

Class: 8

Packing Group: III

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Contains Iron (III) Chloride Hexahydrate)

IATA

UN Number: 3260

Class: 8

Packing Group: III

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Contains Iron (III) Chloride Hexahydrate)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)