Infosafe No™	1CH3C	Issue Date : October 2015	RE-ISSUED by CHEMSUPP

Product Name : **FERRIC CHLORIDE Hexahydrate**

Classified as hazardous

1. Identification

GHS Product Identifier	FERRIC CHLORIDE Hexahydrate
Company Name	CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address	38 - 50 Bedford Street GILLMAN SA 5013 Australia
Telephone/Fax Number	Tel: (08) 8440-2000 Fax: (08) 8440-2001
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.

Other Names

Name	Product Code
IRON (III) CHLORIDE Hexahydrate LR	FL023
Ferric trichloride hexahydrate, Iron trichloride hexahydrate	

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.

Other Information
EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply 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 Chem-Supply 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 Chem-Supply 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.

2. Hazard Identification

GHS classification of the substance/mixture	Eye Damage/Irritation: Category 1 Acute Toxicity - Oral: Category 4 Skin Corrosion/Irritation: Category 2
Signal Word (s)	DANGER
Hazard Statement (s)	H302 Harmful if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage.
Pictogram (s)	Corrosion, Exclamation mark

Precautionary statement – Prevention	P264 Wash thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement – Response	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician. P332+P313 If skin irritation occurs: Get medical advice/attention. P331 Do NOT induce vomiting.

3. Composition/information on ingredients

Chemical Characterization	Solid

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Iron (III) chloride hexahydrate	10025-77-1	100 %

4. First-aid measures

Inhalation	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.
Ingestion	Rinse mouth thoroughly with water immediately. Do not induce vomiting. Give water to drink, provided patient is conscious. Seek medical attention.
Skin	Wash affected areas with copious quantities of water. Remove contaminated clothing and wash before re-use. Seek medical advice if effects persist.
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.
First Aid Facilities	Maintain eyewash fountain and safety shower in work area.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once.

5. Fire-fighting measures

Hazards from Combustion Products	May liberate toxic fumes in fire including hydrogen chloride and other toxic chlorine compounds.
Specific Methods	Use extinguishing media most appropriate for the surrounding fire. No limitations to the type of extinguishing media. Material does not burn. Small fire: Use dry chemical, CO_2, water spray or foam. Large fire: Use water spray, fog or foam.
Precautions in connection with Fire	Wear SCBA and structural firefighter's uniform.

6. Accidental release measures

Personal Precautions	Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Clean-up Methods - Small Spillages	Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.
Clean-up Methods - Large Spillages	Seek expert advice on handling and disposal.
Environmental Precautions	Prevent from entering into drains, ditches, rivers or the sea.

7. Handling and storage

Precautions for Safe Handling	Avoid generation or accumulation of dusts. Wash hands and face thoroughly after working with material. Do not use metal equipment or containers.
Conditions for safe storage, including any incompatabilities	Keep containers closed at all times. Keep container dry Store at room temperature (15 - 25 °C).

8. Exposure controls/personal protection

Occupational exposure limit values

Name	STEL		TWA		
	mg/m3	ppm	mg/m3	ppm	Footnote
Iron (III) chloride hexahydrate			1		

Other Exposure Information
A time weighted average (TWA) has been established for Iron salts, soluble (as Fe) (Safe Work Australia) of 1 mg/m³. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

Appropriate engineering controls
In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Eye 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.
Hand Protection	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Nitrile rubber gloves Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.
Personal Protective Equipment	Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.
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 impervious clothing should be worn, preferably with an apron for extra protection. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form	Solid
Appearance	Brownish-yellow or orange crystals or powder.
Odour	Usually slight odour of hydrogen chloride.
Melting Point	~37 °C
Boiling Point	280 - 285 °C (760 mm Hg)
Solubility in Water	Soluble in water
Solubility in Organic Solvents	Readily soluble in alcohol, acetone and ether.
Specific Gravity	1.82
pH	~1.8 (10 g/l, H2O, 25 °C)
Vapour Pressure	1 mm Hg (194 °C)
Partition Coefficient: n-octanol/water	Log P(o/w): -4 (24 °C)(anhydrous substance)
Flammability	Non combustible material.
Molecular Weight	270.30

10. Stability and reactivity

Chemical Stability	Stable under normal use conditons. Hygroscopic
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.
Possibility of hazardous reactions	Ethylene oxide polymerises explosively in the presence of ferric chloride. Reacts with water to produce toxic and corrosive fumes.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50 (rat): 316 mg/kg. LDLo (rat): 900 mg/kg.
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, heamatemesis, 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	Corrosive. Skin contact causes irritation, redness, pain and severe burns. May be harmful if absorbed through the skin.
Eye	Corrosive. Contact can cause blurred vision, redness, pain and severe tissues burns. Risk of serious damage to eyes.
Carcinogenicity	No evidence of carcinogenic properties.
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.
Mutagenicity	No evidence of mutagenic properties.

12. Ecological information

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).
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!
Acute Toxicity - Fish	O. latipes LC50: 23 mg/l/48 h (anhydrous substance). The following applies to dissolved iron compounds in general: fish: toxic as from 0.9 mg/l at pH 6.5 - 7.5; lethal as from 1 mg/l at pH 5.5 - 6.7; iron upper limit for fish life: 50 mg/l. When iron ions flocculate in an alkaline medium, mechanical damage occurs in aquatic organisms.
Acute Toxicity - Daphnia	EC50 (Daphnia magna): 29.74 mg/l/48 h (anhydrous substance).

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail.

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS).
Poisons Schedule	Not Scheduled

16. Other Information

Literature References	'Standard for the Uniform Scheduling of Medicines and Poisons No. 6', Commonwealth of Australia, February 2015. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous

Chemicals', 2011.
Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010.
Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.
Safe Work Australia, 'Hazardous Substances Information System, 2005'.
Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.
Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)]'.

Contact Person/Point

Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT:
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Empirical Formula & Structural Formula

FeCl3.6H2O

...End Of MSDS...