

Infosafe No™ 1CHJM Issue Date : January 2021 RE-ISSUED by CHEMSUPP

Product Name **FERROUS CHLORIDE Hydrated**

Classified as hazardous

1. Identification

GHS Product Identifier FERROUS CHLORIDE Hydrated

Company Name CHEMSUPPLY AUSTRALIA PTY LTD (ABN 19 008 264 211)

Address 38 - 50 Bedford Street GILLMAN
SA 5013 Australia

Telephone/Fax Number Tel: (08) 8440-2000

Emergency phone number CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

E-mail Address www.chemsupply.com.au

Recommended use of the chemical and restrictions on use Mordant in dyeing, metallurgy, pharmaceutical preparations, manufacture of ferric chloride, sewage treatment and laboratory reagent.

Other Names	<u>Name</u>	<u>Product Code</u>
	FERROUS CHLORIDE Hydrated LR	FL017
	Iron (II) chloride, Iron dichloride	

Other Information

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.

2. Hazard Identification

GHS classification of the substance/mixture Eye Damage/Irritation: Category 1
Acute Toxicity - Oral: Category 4
Skin Corrosion/Irritation: Category 1B

Signal Word (s) DANGER

Hazard Statement (s) H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Pictogram (s) Corrosion, Exclamation mark



Precautionary statement – Prevention P260 Do not breathe dust/fume/gas/mist/vapours/spray.
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.
P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before reuse.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a

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Precautionary statement – Storage position comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement – Disposal P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.

3. Composition/information on ingredients

Ingredients	Name	CAS	Proportion
	Iron (II) Chloride Tetrahydrate	13478-10-9	100 %

4. First-aid measures

Inhalation If inhaled, remove from contaminated area to fresh air immediately, avoid becoming a casualty. Make patient comfortable, keep warm and at rest until fully recovered. If breathing is difficult (or develops a bluish skin discolouration), supply oxygen by a qualified person. Apply artificial respiration with a respiratory medical device if not breathing. Do not use mouth to mouth resuscitation. Immediately medical attention is required.

Ingestion 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.

Skin Wash affected areas with copious quantities of water immediately. 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. In all cases of eye contamination it is a sensible precaution to seek medical advice.

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.

5. Fire-fighting measures

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, CO2, water spray or foam.
Large fire: Use water spray, fog or foam.
If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out.

Specific hazards arising from the chemical Material does not burn. Runoff may pollute waterways. Fire or heat may produce irritating, poisonous and/or corrosive fumes. Containers may explode when heated.

Hazchem Code 2X

Decomposition Temp. > 150 °C.

Precautions in connection with Fire Wear SCBA and structural firefighter's uniform.

6. Accidental release measures

Personal Precautions Evacuate the area of all non-essential personnel. 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 using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance

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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 Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. When using do not eat or drink.
Conditions for safe storage, including any incompatibilities Store away from oxidizing agents. Store at room temperature (15 - 25 °C). Keep container tightly closed in a dry, well-ventilated place away from direct sunlight. Containers of this material may be hazardous when empty since they retain product residues (dusts, solids). Isolate from incompatible substances. Material dissolves in water to form an acidic solution.
Corrosiveness Causes severe irritation or burns to every area of contact.
Storage Regulations Refer Australian Standard AS/NZS 2243.10:2004 'Safety in laboratories - Storage of chemicals'.
 Refer Australian Standard AS 3780-2008 'The storage and handling of corrosive substances'.

8. Exposure controls/personal protection

Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Iron (II) Chloride Tetrahydrate			1		Iron salts soluble (as Fe)
Other Exposure Information	These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. 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	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	Wear gloves of impervious material conforming to AS/NZS 2161: Occupational protective gloves - Selection, use and maintenance. Final choice of appropriate glove type will vary according to individual circumstances. This can include methods of handling, and engineering controls as determined by appropriate risk assessments. Avoid skin contact when removing gloves from hands, do not touch the gloves outer surface. Dispose of gloves as hazardous waste.					
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.					

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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.
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	Yellow-green crystals.
Odour	Slight hydrogen chloride odour.
Decomposition Temperature	> 150 °C.
Melting Point	105 - 110 °C (loses 2H ₂ O), 670-674 °C - anhydrous.
Boiling Point	1023 °C - anhydrous
Solubility in Water	Soluble
Solubility in Organic Solvents	Soluble in alcohol.
Specific Gravity	1.93
pH	2.5 (100 g/l, H ₂ O)
Vapour Pressure	10 mm Hg @ 700 °C.
Volatile Component	0%
Partition Coefficient: n-octanol/water	Log P(o/w): -0.15 (anhydrous)
Flammability	Non combustible material.
Molecular Weight	198.81 (Ferrous chloride tetrahydrate)
Other Information	Hygroscopic. Readily oxidised.

10. Stability and reactivity

Chemical Stability	Stable under ordinary conditions of use and storage. Oxidizes upon exposure to air and moisture.
Conditions to Avoid	Incompatible materials, dust generation, excess heat, exposure to moist air or water.
Incompatible Materials	Strong oxidisers, strong bases and acids, ethylene oxide, potassium, sodium.
Hazardous Decomposition Products	Hydrogen chloride gas.
Possibility of hazardous reactions	With sodium or potassium.
Hazardous Polymerization	Will not occur.

11. Toxicological Information

Acute Toxicity - Oral	LD50: (Rat) 450 mg/kg.
Ingestion	Swallowing can cause severe burns of the mouth, throat and stomach. Can cause sore throat, vomiting and diarrhoea. Low systemic toxicity in small quantities, but larger doses may cause systemic effects. Pink urine discoloration is a strong indicator of iron poisoning. Ingestion of iron

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	compounds may cause hemorrhage and necrosis of the stomach with shock and severe diarrhoea. Liver damage, coma and death may follow, sometimes delayed as long as three days. Toxic effect on kidneys.
Inhalation	Corrosive. Extremely destructive to tissues of the mucous membranes and upper respiratory tract. Symptoms may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.
Skin	Corrosive. May cause severe irritation, redness, pain and skin burns, especially if the skin is wet or moist.
Eye	Corrosive. Contact causes severe irritation, burns, redness, and pain. May cause chemical conjunctivitis. Risk of serious damage to eyes.
Respiratory sensitisation	Not classified based on available information.
Skin Sensitisation	Not classified based on available information.
Germ cell mutagenicity	Not classified based on available information.
Carcinogenicity	Not classified based on available information.
Reproductive Toxicity	Not classified based on available information.
STOT-single exposure	Not classified based on available information.
STOT-repeated exposure	Not classified based on available information.
Chronic Effects	Repeated or prolonged exposure to the substance can produce target organ damage. Effects may be delayed. Target organs: Cardiovascular and central nervous systems, liver, kidneys.
Serious eye damage/irritation	Eye Damage/Irritation: Category 1 H314 Causes severe skin burns and eye damage.
Mutagenicity	Not classified based on available information.
Skin corrosion/irritation	Skin Corrosion/Irritation: Category 1B H314 Causes severe skin burns and eye damage.

12. Ecological information

Ecotoxicity	Harmful effect due to pH shift. A harmful effect on aquatic organisms cannot be excluded in the event of improper handling or disposal.
Mobility	The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils.
Bioaccumulative Potential	No bioaccumulation is to be expected (log P(o/w) <1.0). Distrubution: log P (o/w): -0.15
Biological Properties	When iron ions flocculate in an alkaline medium, mechanical damage occurs in aquatic organisms.
Acute Toxicity - Fish	LC50: (Morone saxatilis) 4 mg/L, 96h static

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.
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14. Transport information

Transport Information	Class 8 Corrosives shall not be loaded in the same vehicle with: - Class 1 Explosives - Class 4. 3 Dangerous when wet substances - Class 5. 1 Oxidizing agents - Class 5. 2 Organic peroxides
U.N. Number	3260
UN proper shipping name	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. - Ferrous chloride hydrated
Transport hazard class(es)	8

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Hazchem Code	2X
Packing Group	III
IERG Number	37
Environmental Hazards	When iron ions flocculate in an alkaline medium, mechanical damage occurs in aquatic organisms.

15. Regulatory information

Regulatory Information	All the constituents of this product are listed on the Australian Inventory of Chemical Substances (AICS), or exempted. Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Poisons Schedule	Not Scheduled

16. Other Information

Literature References	'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'. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand. Safe Work Australia, 'Hazardous Chemical Information System'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment'.
Contact Person/Point	Paul McCarthy Ph. (08) 8440 2000 DISCLAIMER STATEMENT: All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. ChemSupply Australia Pty Ltd accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
Empirical Formula & Structural Formula	FeCl ₂ ·4H ₂ O (Tetrahydrate):FeCl ₂ ·xH ₂ O (Hydrated) ...End Of MSDS...

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