Safety Data Sheet FERROUS CHLORIDE Hydrated

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SECTION 1: Identification

GHS Product identifier

Product name	FERROUS CHLORIDE Hydrated

Other means of identification

Product	Product Code
FERROUS CHLORIDE Hydrated LR	FL017

Recommended use of the chemical and restrictions on use

Mordant in dyeing, metallurgy, pharmaceutical preparations, manufacture of ferric chloride, sewage treatment and laboratory reagent.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com.au

Emergency phone number

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

SECTION 2: Hazard identification

General hazard statement

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

- Acute toxicity, oral, Cat. 4
- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 2

GHS label elements, including precautionary statements

Pictograms

Signal word	**Danger**
Hazard statement(s)	
H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
Precautionary statement(s)	
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physcian if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of water/soap
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/doctor/physcian
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight	198.81

Component	Identification	Weight %	Classifications
Ferrous chloride, tetrahydrate	CAS no.: 13478-10-9	<= 100 %	CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Eye damage/irritation, Cat. 1; Skin corrosion/ irritation, Cat. 2. HAZARDS: H302 - Harmful if swallowed; H315 - Causes skin irritation; H318 - Causes serious eye damage.

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	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.
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.

In case of 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.
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.
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.

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
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.
Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up
Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a . clean, suitable, clearly labelled container for disposal in accordance with local regulation

SECTION 7: Handling and storage

Precautions for safe handling
Do not breathe dust. Do not get in 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.
Causes severe irritation or burns to every area of contact.

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 and 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	Yellow-green crystals.
Color	No data available.
Odor	Slight hydrogen chloride odour.
Odor threshold	No data available.
Melting point/freezing point	105 - 110 °C (loses 2H2O), 670-674 °C - anhydrous.
Boiling point or initial boiling point and boiling range	1023 °C - anhydrous
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	> 150 °C.
Oxidizing properties	No data available.
pH	2.5 (100 g/l, H2O)
Kinematic viscosity	No data available.

Solubility	Solubility in Water: Soluble Solubility in Organic Solvents: Soluble in alcohol.
Partition coefficient n-octanol/ water (log value)	Log P(o/w): -0.15 (anhydrous)
Vapor pressure	10 mm Hg @ 700 °C.
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.93
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
Other Information: Hygroscopic. Readily oxidised.

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions of storage and handling.

Chemical stability
Stable under ordinary conditions of use and storage. Oxidizes upon exposure to air and moisture.

Possibility of hazardous reactions
With sodium or potassium.

Conditions to avoid
Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials
Strong oxidisers, strong bases and acids, ethylene oxide, potassium, sodium.

Hazardous decomposition products
Hydrogen chloride gas.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
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 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 corrosion/irritation
Corrosive. May cause severe irritation, redness, pain and skin burns, especially if the skin is wet or moist.

Skin corrosion/irritation: Skin Corrosion/Irritation: Category 1B
H314 Causes severe skin burns and eye damage.

Serious eye damage/irritation
Corrosive. Contact causes severe irritation, burns, redness, and pain. May cause chemical conjunctivitis. Risk of serious damage to eyes.

Serious eye damage/irritation: Eye Damage/Irritation: Category 1
H314 Causes severe skin burns and eye damage.

Respiratory or skin sensitization
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.

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
May be fatal if swallowed and enters airways.

Additional 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.

SECTION 12: Ecological information

Toxicity
Ecotoxicity: A harmful effect on aquatic organisms cannot be excluded in the event of improper handling or disposal.

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

Bioaccumulative potential
Distrubution: log P (o/w): -0.15

Mobility in soil
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.

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
Distrubution: log P (o/w): -0.15

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

SECTION 14: Transport information

ADG (Road and Rail)
UN Number: 3260
Class: 8
Packing Group: III
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Contains Iron(II) Chloride tetrahydrate)

Environmental Hazards: When iron ions flocculate in an alkaline medium, mechanical damage occurs in aquatic organisms.

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(II) Chloride tetrahydrate)

IATA
UN Number: 3260
Class: 8
Packing Group: III
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Contains Iron(II) Chloride tetrahydrate)

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.

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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 fot 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 Airbourne 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)