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## MATERIAL SAFETY DATA SHEET

Revision Date: 16/04/2019

Transport/Fire Emergency: **000** (Emergency Services)  
Medical Emergency: **131126** (Poisons information)

### Ferric Chloride Solution

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
PRODUCT NAME:	Ferric Chloride Solution
OTHER NAMES:	Ferric Perchloride; Ferric Trichloride; IRON CHLORIDE (FeCl <sub>3</sub> )
APPLICATION OF SUBSTANCE:	Coagulant in the treatment of sewerage, waste water, and drinking water.
MANUFACTURED BY:	Redox Pty Ltd 2 Swettenham Road Minto NSW 2566 Australia
CONTACT NUMBERS:	+61-2-97333000
EMERGENCY CONTACTS:	Poisons Information Centre Westmead NSW 1800-251525 131126  Chemcall Australia 1800-127406 +64-4-9179888
2. HAZARDOUS INFORMATION	
Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)  Acute Toxicity (Oral) - Category 4 Corrosive to Metals - Category 1 Skin Corrosion/Irritation - Category 2 Serious Eye Damage/Irritation - Category 1	
MANUFACTURER'S CODE:	N/A
UN NUMBER:	2582
DANGEROUS GOODS CLASS AND SUBSIDIARY RISK:	N/A
HAZCHEM CODE:	2X
POISONS SCHEDULE NUMBER:	5
PACKAGING GROUP:	III
EPG:	37 Toxic And/Or Corrosive Substances Non-Combustible
CLASS:	8 Corrosive Substances

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ferric Chloride  
Formula: No Data Available  
CAS No.: 7705-08-0  
Proportion: 30.0 - 60.0%

Hydrochloric Acid  
Formula: No Data Available  
Cas No.: 7647-01-0  
Proportion: <1.0%

Water  
Formula: No Data Available  
CAS No.: 7732-18-5  
Proportion: Balance to 100%

### 4. FIRST AID MEASURES

GENERAL:	Treat symptomatically. Can cause corneal burns. No information available on medical conditions which are aggravated from exposure to this product.
INHALATION:	Remove victim from exposure; avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. Seek medical advice if effects persist.  <b>Material may be an irritant to mucous membranes and respiratory tract.</b>
EYE CONTACT:	Immediately irrigate with copious quantities of water for 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.  <b>Highly corrosive to eyes and may injure the cornea. Causes severe burns. May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapour may cause eye irritation experienced as mild discomfort and redness.</b>
SKIN CONTACT:	If skin or hair contact occurs, immediately remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by the Poisons information Centre or a doctor, or for 15 minutes before transporting to doctor or hospital.  <b>Highly corrosive to skin - Causes severe burns. Brief contact may cause skin burns. May not produce an immediate burning sensation upon contact, delaying the awareness that contact has occurred. Symptoms may include redness, burning, and swelling of skin, burns, and other skin damage.</b>

4. FIRST AID MEASURES	
INGESTION:	<p>Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by mouth to an unconscious patient. If vomiting occurs give further water. Seek medical advise.</p> <p><b>Harmful by ingestion. Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Causes severe burns. Swallowing may result in gastro-intestinal irritation and ulceration. May also result in burns of the mouth and throat. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.</b></p>

5. FIRE FIGHTING MEASURES	
EXTINGUISHING MEDIA:	Use appropriate extinguishing media most suitable for surrounding fire conditions.
DO NOT USE:	N/A
DEGREE OF FIRE RISK:	<p>Product is a non-flammable liquid. Non-combustible liquid. Not considered to be a fire hazard or an explosion hazard. Incompatible with oxidising agents, alkalis, metals, and sources of ignition. When involved in a fire, this product may emit sulphur oxides, and Hydrogen Chloride gases.</p>
RECOMMENDATIONS:	<p>If safe to do so, remove containers from the path of fire.</p> <p>Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.</p> <p>Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas where gases or fumes can accumulate. Eliminate ignition sources.</p>

## 6. ACCIDENTAL RELEASE MEASURES

Avoid accidents, clean up immediately. May be slippery when spilt. Eliminate all sources of ignition. Increase ventilation. Isolate the danger area. Use clean, non-sparking tools and equipment. Shut off all possible sources if ignition.

Small spills: Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours. Wipe up with absorbent (clean rag or paper towel). Allow absorbent to dry before disposing with normal household garbage. Large spills : Slippery when split. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal.

Stop leak if safe to do so.

Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.

Evacuate all unnecessary personnel.

Personnel involved in the clean up should wear full protective clothing.

## 7. HANDLING AND STORAGE

### HANDLING:

Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures.

Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale vapours.

### STORAGE:

Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for damage or leaks.

Protect against physical damage. Store away from incompatible materials. Protect from sunlight, moisture, and static discharges. Containers should be of acid resistant material. Stable in storage for approximately 1 year. This product has a UN Classification of 2582 and a Dangerous Goods Class 8 (Corrosive) according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

Container type/packaging must comply with all applicable local legislation. Store in original packaging as approved by manufacturer. Do NOT use carbon steel. Containers should be of acid resistant material.

## 8. EXPOSURE CONTROL AND PERSONAL PROTECTION

### GENERAL:

The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC); Hydrogen Chloride Cas 7647-01-0 TWA = 5ppm (7.5mg/m<sup>3</sup> Peak Limitation)

NOTE: 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. Peak limitation is a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.

These 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 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.

<b>8. EXPOSURE CONTROL AND PERSONAL PROTECTION</b>	
ENGINEERING MEASURES:	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
<i>PERSONAL PROTECTION</i>	
RESPIRATORY PROTECTION:	Wear an approved respirator where dusts/vapours are generated and engineering controls are inadequate (AS1715/1716).
HAND PROTECTION:	Wear chemical resistant gloves (AS2161).
EYE PROTECTION:	Tightly fitting splash goggles (AS1336/1337).
SKIN PROTECTION:	Corrosion-resistant coveralls and safety footwear (AS3765/2210).

<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>	
APPEARANCE:	Reddish liquid.
FLASH POINT:	N/A
BOILING POINT:	105 - 110 °C
VAPOUR PRESSURE:	N/A
VAPOUR DENSITY:	>1
SPECIFIC GRAVITY:	1.45
SOLUBILITY IN WATER:	Soluble in water to 25°C
MELTING POINT:	N/A

<b>10. STABILITY AND REACTIVITY</b>
<p>Highly corrosive to most metals liberating (flammable) hydrogen gas. Hydrogen chloride is produced on hydrolysis (including atmospheric moisture).</p> <p>This material is thermally stable when stored and used as directed.</p> <p>Avoid contact with metals, excessive heat, exposure to light, moisture, static discharges and high temperatures. Incompatible with oxidising agents and strong bases.</p> <p>Hazardous decomposition products: Hydrogen chloride</p>

<b>11. TOXICOLOGICAL INFORMATION</b>
<p>No toxicity data for this specific product, however toxicity data for a hazardous ingredient is listed below.</p> <p>TOXICITY DATA FOR FERRIC CHLORIDE:            Oral LD50 (rat) 316 mg/kg Oral LD50 (mouse) 200 mg/kg</p> <p>No carcinogenic data available.</p>

## 12. ECOLOGICAL INFORMATION

This product is an inorganic substance/preparation.  
Striped bass (fingerling) LC50/24hr: 6mg/L (static) Striped bass (Larvae) LC50/24hr : 4mg/L (static) During hydrolysis, a metal hydroxide precipitate is formed, in the pH range of 5 - 7. Due to this reaction, pH water phase is decreased. If phosphates are present, a metal phosphate complex may form.  
Completely soluble in water. Do NOT let product reach waterways, drains and sewers.

## 13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.

Contact a specialist disposal company or the local waste regulator for advice. Incinerate at an approved site following all local regulations. This material may be suitable for approved landfill.

## 14. TRANSPORT INFORMATION

Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Proper shipping name: Ferric Chloride Solution

## 15. REGULATORY INFORMATION

Poisons schedule 5

## 16. OTHER INFORMATION

N/A