

## 1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: **FERRIC CHLORIDE SOLUTION**

**Synonyms**

FERCHL-1400K

**Product Code**

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**Bar Code**

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**Recommended use:** General chemical. Coagulant for water and waste water treatment.

**Supplier:** DuluxGroup (PNG) Pte. Ltd.

**Street Address:** Air Corps Road  
Lae, Morobe 411,  
Papua New Guinea

**Telephone:** +675 7444 9999

**Emergency Telephone number:** Australia +613 9663 2130

## 2. HAZARDS IDENTIFICATION

This material is hazardous according to criteria of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) 7<sup>th</sup> edition.



**Signal Word**

Danger

**Hazard Classifications**

Acute Toxicity - Oral - Category 4

Corrosive to Metals - Category 1

Skin Corrosion/Irritation - Category 2

Eye Damage/Irritation - Category 1

**Hazard Statements**

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

**Prevention Precautionary Statements**

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

P234 Keep only in original packaging.

P264 Wash hands, face and all exposed skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing protective clothing, gloves, eye/face protection and suitable respirator.

**Response Precautionary Statements**

P101 If medical advice is needed, have product container or label at hand.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

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P310 lenses, if present and easy to do. Continue rinsing.  
P330 Immediately call a POISON CENTER/doctor.  
P332+P313 Rinse mouth.  
P362 If skin irritation occurs: Get medical advice/attention.  
P390 Take off contaminated clothing.  
Absorb spillage to prevent material damage.

## Storage Precautionary Statement

P406 Store in corrosive resistant original container with a resistant inner liner.

## Disposal Precautionary Statement

P501 Dispose of contents/container in accordance with local, regional, national and international regulations..

## DANGEROUS GOOD CLASSIFICATION

Classified as Dangerous Goods by the criteria of the United Nations "Recommendations on the Transport of Dangerous Goods."

**Dangerous Goods Class:** 8

## 3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Iron chloride (FeCl <sub>3</sub> )	7705-08-0	30 - 60 % (w/w)
Hydrochloric acid	7647-01-0	<1 % (w/w)
Water	7732-18-5	Balance
		100%

## 4. FIRST AID MEASURES

**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.

**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 and transport to Doctor or Hospital.

**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.

**Ingestion:** Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Immediately call Poisons Centre or Doctor.

**PPE for First Aiders:** Wear safety shoes, overalls, gloves, chemical goggles, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**Notes to physician:** Treat symptomatically. Can cause corneal burns.



## 5. FIRE FIGHTING MEASURES

**Suitable extinguishing media:** If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

**Specific hazards:** Non-combustible material.

**Fire fighting further advice:** Not applicable.

## 6. ACCIDENTAL RELEASE MEASURES

### SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

### LARGE SPILLS

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the 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. If contamination of crops, sewers or waterways has occurred advise local emergency services.

**Dangerous Goods - Initial Emergency Response Guide No:** 37

## 7. HANDLING AND STORAGE

**Handling:** Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols.

**Storage:** Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store in corrosive resistant container with a resistant inner liner. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**National occupational exposure limits:**

	TWA		STEL		NOTICES
	ppm	mg/m3	ppm	mg/m3	
Hydrogen chloride	5 Peak limitation	7.5 Peak limitation	-	-	-

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

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.

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If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

**Biological Limit Values:** As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

**Engineering Measures:** Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator.

**Personal Protection Equipment:** SAFETY SHOES, OVERALLS, GLOVES, CHEMICAL GOGGLES, RESPIRATOR.

Wear safety shoes, overalls, gloves, chemical goggles, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**Hygiene measures:** Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Form:</b>	Liquid
<b>Colour:</b>	Reddish - brown
<b>Odour:</b>	Characteristic
<b>Solubility:</b>	Soluble in water.
<b>Specific Gravity:</b>	1.42
<b>Density:</b>	N Av
<b>Relative Vapour Density (air=1):</b>	<1
<b>Vapour Pressure (20 °C):</b>	2.67 kPa (water)
<b>Flash Point (°C):</b>	N App
<b>Flammability Limits (%):</b>	N App
<b>Autoignition Temperature (°C):</b>	N App
<b>Melting Point/Range (°C):</b>	N Av
<b>Boiling Point/Range (°C):</b>	N Av
<b>pH:</b>	1 - 2
<b>% Volatile by Volume:</b>	52

(Typical values only - consult specification sheet)  
N Av = Not available, N App = Not applicable

## 10. STABILITY AND REACTIVITY

**Chemical stability:** This material is thermally stable when stored and used as directed.

**Conditions to avoid:** Elevated temperatures and sources of ignition.

**Incompatible materials:** Metals, alkalis and reducing agents.

**Hazardous decomposition products:** Hydrogen chloride.

**Hazardous reactions:** Fire or heat will produce irritating, toxic and / or corrosive gases, including hydrogen chloride gas. Contact with metals may evolve flammable hydrogen gas.

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

### Acute Effects

**Inhalation:** Material may be an irritant to mucous membranes and respiratory tract.

**Skin contact:** Contact with skin will result in irritation.

**Ingestion:** Harmful if swallowed. Swallowing can result in nausea, vomiting and irritation of the gastrointestinal tract.

**Eye contact:** A severe eye irritant. Corrosive to eyes: contact can cause corneal burns. Contamination of eyes can result in permanent injury.

### Acute toxicity

**Inhalation:** This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): LC50 > 20.0 mg/L for vapours or LC50 > 5.0 mg/L for dust and mist or LC50 > 20,000 ppm for gas

**Skin contact:** This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg bw

**Ingestion:** This material has been classified as a Category 4 Hazard. Acute toxicity estimate (based on ingredients): 300 - 2,000 mg/Kg bw

**Corrosion/Irritancy:** Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as a Category 2 Hazard (reversible effects to skin).

**Sensitisation:** Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

**Aspiration hazard:** This material has been classified as non-hazardous.

**Specific target organ toxicity (single exposure):** This material has been classified as non-hazardous.

### Chronic Toxicity

**Mutagenicity:** This material has been classified as non-hazardous.

**Carcinogenicity:** This material has been classified as non-hazardous.

**Reproductive toxicity (including via lactation):** This material has been classified as non-hazardous.

**Specific target organ toxicity (repeat exposure):** This material has been classified as non-hazardous.

## 12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

**Acute aquatic hazard:** This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >100 mg/L

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**Long-term aquatic hazard:** This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log K<sub>ow</sub> < 4.

**Ecotoxicity:** No information available.

**Persistence and degradability:** No information available.

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

## 13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

## 14. TRANSPORT INFORMATION

### ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the United Nations "Recommendations on the Transport of Dangerous Goods."



**UN No:** 2582  
**Dangerous Goods Class:** 8  
**Packing Group:** III  
**Hazchem Code:** 2X  
**Emergency Response Guide No:** 37

**Proper Shipping Name:** FERRIC CHLORIDE SOLUTION

**Segregation Dangerous Goods:** Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7) or food and food packaging in any quantity. Note 1: Concentrated strong alkalis are incompatible with concentrated strong acids. Note 2: Concentrated strong acids are incompatible with concentrated strong alkalis. Note 3: Acids are incompatible with Dangerous Goods of Class 6 which are cyanides. Exemptions may apply.

### MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.



**UN No:** 2582  
**Dangerous Goods Class:** 8

# Safety Data Sheet



**Packing Group:** III  
**Proper Shipping Name:** FERRIC CHLORIDE SOLUTION

## AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.



**UN No:** 2582  
**Dangerous Goods Class:** 8  
**Packing Group:** III  
**Proper Shipping Name:** FERRIC CHLORIDE SOLUTION

## 15. REGULATORY INFORMATION

### This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)  
The Stockholm Convention (Persistent Organic Pollutants)  
The Rotterdam Convention (Prior Informed Consent)  
International Convention for the Prevention of Pollution from Ships (MARPOL)

### This material is subject to the following international agreements:

Basel Convention (Hazardous Waste)  
• Acidic solutions or acids in solid form

## 16. OTHER INFORMATION

Reason for issue: Revised

This Safety Data Sheet has been prepared by Chemical Data Services Pty Ltd (chemdata.com.au) on behalf of its client.

Safety Data Sheets are updated frequently. Please ensure that you have a current copy.

This SDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product, and in particular how to safely handle and use the product in the workplace. Since DuluxGroup (Australia) Pty Ltd and DuluxGroup (New Zealand) Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this SDS in the context of how the user intends to handle and use the product in the workplace.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact this company.

Our responsibility for product as sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available upon request.