

Material Safety Data Sheet

FERRIC CHLORIDE SOLUTION

InfosafeSM AJ1L8 **Issue Date** January 2008 **Status** ISSUED by **BS: 1.9.12**
No. APSSC

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name FERRIC CHLORIDE SOLUTION

Product Code A222

Company Name APS, A Division of Nuplex Industries (Aust) Pty Ltd (ABN 25 000 045 572)

Address Unit 15 22 Powers Road SEVEN HILLS
NSW 2147

Emergency Tel. 1800 022 037 (24H)

Telephone/Fax Number Tel: (02) 9839 4000
Fax: (02) 9674 6225

Recommended Use Use in treatment of sewage and industrial waste, etching agent for engraving, photography, and printed circuitry, condensation catalyst in Friedel-Crafts reactions, mordant, oxidising chlorinating, and condensing agent, disinfectant, pigment, feed additive and water purification.

Other Names Not Available

Other Information New Zealand: Asia Pacific Specialty Chemicals (NZ) Limited
119 Carbine Road
Mt Wellington, Auckland 6
Emergency Tel: 0800 154 666 (24H)
Telephone: (09) 276 4019
Fax: (09) 276 7231

2. HAZARDS IDENTIFICATION

Hazard Classification

Australia:
Classified as Hazardous, according to criteria of National

Occupational Health & Safety Commission, Australia (NOHSC).
Classified as Dangerous Goods, according to the Australian Code
for the Transport of Dangerous Goods by Road and Rail.

New Zealand:

Classified as Hazardous according to the Hazardous Substances
(Classification) Regulations 2001, New Zealand.

Classified as Dangerous Goods for transport, according to the
NZS 5433:2007 Transport of Dangerous Goods on Land.

HSNO Classification:

6.1D - Substance that is moderate acutely toxic if swallowed

6.3A - Substance that is irritating to the skin.

8.3A - Substance that is corrosive to ocular tissue.

9.3C - Substance that is harmful to terrestrial vertebrates.

Hazard statement code:

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H433 Harmful to terrestrial vertebrates.

Precautionary statement codes- prevention:

P102 Keep out of reach of children.

P103* Read label before use. - This statement applies only
where the substance is available to the general public.

P104 Read Safety Data Sheet before use.

P264 Wash skin thoroughly after handling.

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

P273 Avoid release to the environment. - This statement does
not apply where this is the intended use.

P280 Wear protective gloves/protective clothing/eye
protection/face protection.

Precautionary statement codes- Response:

INGESTION:

P101* If medical advice is needed, have product container or
label at hand. - This statement applies only where the
substance is available to the general public.

P301+P312 IF SWALLOWED: Call a POISON CENTER or
doctor/physician if you feel unwell.

P330 Rinse mouth.

P331 Do NOT induce vomiting.

SKIN:

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

P321 Specific treatment (see ... <reference to supplemental
first aid instruction> on this label). * * In the case of a HSNO
6.3A, 6.5B, or class 8.2 substance; specify a cleansing agent
if appropriate. - In the case of a HSNO 6.1A-C (oral)
substance, this statement applies if immediate administration
of antidote is required. - In the case of a HSNO 6.1C
(inhalation) substance, this statement applies if immediate
specific measures are required. - In the case of a HSNO 6.9A
(single exposure) substance, this statement applies if
immediate measures are required.

P332+P313 If skin irritation occurs: Get medical advice/
attention.

P362 Take off contaminated clothing and wash before re-use.

EYES:

P101* If medical advice is needed, have product container or label at hand. - This statement applies only where the substance is available to the general public.

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.

Precautionary statement codes - Storage:

No response statements

Precautionary statement codes - Disposal:

P501 *In the case of a substance that is in compliance with a HSNO approval other than a Part 6A (Group Standards) approval, a label must provide a description of one or more appropriate and achievable methods for the disposal of a substance in accordance with the Hazardous Substances (Disposal) Regulations 2001. This may also include any method of disposal that must be avoided.

Risk Phrase(s)

R22 Harmful if swallowed.

R34 Causes burns.

Safety Phrase (s)

S28 After contact with skin, wash immediately with plenty of water.

S24/25 Avoid contact with skin and eyes.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Iron (III) chloride	7705-08-0	30-60 %
	Ingredients deemed not to be hazardous		Balance

4. FIRST AID MEASURES

Inhalation

Remove the source of contamination or move the victim to fresh air. Ensure airways are clear and have qualified person give oxygen through a face mask if breathing is difficult. Seek medical attention.

Ingestion

DO NOT INDUCE VOMITING. Wash out mouth with water. Seek immediate medical attention.

Skin	Wash affected area thoroughly with copious amounts of running water. Remove contaminated clothing and wash before reuse or discard. Seek immediate medical attention.
Eye	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.
First Aid Facilities	Eye wash station, safety shower and normal washroom facilities.
Advice to Doctor	Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Water spray, dry chemical, carbon dioxide or appropriate foam.
Specific Hazards	Can liberate (flammable) hydrogen gas upon contact with most metals. Avoid contact with aluminium, strong bases and potassium metal. When heated, product will emit fumes including hydrogen chloride.
Hazchem Code	2Z
Precautions in connection with Fire	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Wear appropriate personal protective equipment and clothing to minimise exposure. Avoid any inhalation, skin or eye contact. Increase ventilation. Evacuate all unnecessary personnel. If possible contain the spill. Place inert absorbent material onto spillage. Collect the material and place into a suitable labelled container. Do not dilute material but contain. Dispose of waste according to federal, Environmental Protection Authority and state regulations. If the spillage enters the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.
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7. HANDLING AND STORAGE

Precautions for Safe Handling Use in a well ventilated area. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Avoid breathing in spray or mists or vapours. Do not use near welding or other ignition sources and avoid sparks. Wear appropriate protection. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities.

Conditions for Safe Storage Store in a cool dry well-ventilated area. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Provide a catch-tank in a bunded area. Store in original packages as approved by manufacturer. For information on the design of the storeroom, reference should be made to Australian Standard AS 3780-1994 The storage and handling of corrosive substances. Reference should also be made to all State and Federal regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards No exposure standards have been established for this material by the Australian National Occupational Health & Safety Commission (NOHSC) or the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour. However, exposure standards for soluble iron salts and hydrogen chloride are stated below:

Australian National Occupational Health And Safety Commission (NOHSC) Exposure Standards:

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³
Iron salts, soluble (as Fe)	-	1	-	-
-				
Hydrogen chloride	-	5	-	-
7.5 Peak limitation				

New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards:

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³
Iron salts, soluble (as Fe)	-	1	-	-
-				
Hydrogen chloride	-	5	-	-
7.5 Ceiling				

Biological Limit Values No biological limit allocated.

Other Exposure Information As published by the National Occupational Health and Safety Commission (NOHSC) and the New Zealand Occupational Safety and Health Service (OSH):

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.

Peak Limitation - a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.

Engineering Controls

Provide sufficient ventilation. If mists or vapours are generated a local exhaust ventilation system, drawing vapours and mists away from workers' breathing zone, should be used.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. 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.

Eye Protection

Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material such as PVC or rubber gloves. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection

Suitable workwear should be worn to protect personal clothing, eg cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Dark brown liquid with faint odour of hydrogen chloride

Melting Point

-9°C

Boiling Point

114°C

Solubility in Water	Soluble
Specific Gravity	1.46
pH Value	Not available
Vapour Pressure	40
Vapour Density (Air=1)	Not available.
Volatile Component	55-65%
Flash Point	Not applicable
Flammable Limits - Lower	Not applicable
Flammable Limits - Upper	Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal use conditions.
Conditions to Avoid	Extremes of temperature and direct sunlight.
Incompatible Materials	Metals, strong oxidising agents, potassium and strong bases.
Hazardous Decomposition Products	Thermal decomposition may result in the release of toxic and/or irritating fumes including hydrogen chloride, chlorine.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	Acute toxicity: (Ferric chloride). LD50 (Oral, Rat): 1872 mg/kg LD50 (Oral, Mouse): 895 mg/kg
Inhalation	Inhalation of mists or vapours will result in respiratory

irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.

Ingestion	Harmful if swallowed. Ingestion of this product may cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.
Skin	Skin contact will cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction.
Eye	Eye contact will cause stinging, blurring, tearing, severe pain and possible permanent corneal damage
Chronic Effects	Prolonged or repeated skin contact may cause severe tissue damage.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Not available
Persistence / Degradability	Not available
Mobility	Not available
Environment Protection	Do not allow product to enter drains, waterways or sewers.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations	Dispose of waste according to federal, EPA and state regulations.
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14. TRANSPORT INFORMATION

Transport Information	<p>Australia:</p> <p>This material is classified as a Class 8 (Corrosive) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:</p> <ul style="list-style-type: none">- Class 1, Explosive- Class 4.3, Dangerous When Wet Substance- Class 5.1, Oxidising Agent- Class 5.2, Organic Peroxide- Class 6, Toxic and Infectious Substances, if the Class 6
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dangerous goods are cyanides and the Class 8 dangerous goods are acids

- Class 7, Radioactive Substance
and are incompatible with food and food packaging in any quantity.

New Zealand:

This material is classified as a Class 8 - Corrosive Substance according to NZS 5433:2007 Transport of Dangerous Goods on Land.

Must not be loaded in the same freight container or on the same vehicle with:

- Class 1, Explosives
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides
- Class 7, Radioactive materials unless specifically exempted

And are incompatible with food and food packaging in any quantity.

Note 1; Cyanides (Class 6.1) must not be loaded in the same freight container or on the same vehicle with acids (Class 8).

Note 2; Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II acids and alkalis should be considered as strong. Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

- Class 4.3, Dangerous when wet substances

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Class 4.3, Dangerous when wet substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides

And are incompatible with food and food packaging in any quantity.

U.N. Number	2582
Proper Shipping Name	FERRIC CHLORIDE SOLUTION
DG Class	8
Hazchem Code	2Z
Packaging Method	3.8.8
Packing Group	III
EPG Number	8A1
IERG Number	37

Regulatory Information Australia:
Classified as Hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC), Australia.
Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Poisons Schedule Not Scheduled

National and or International Regulatory Information New Zealand:
Classified as Hazardous according to the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.
Group Standard:
Additives, Process Chemicals and Raw Materials (Subsidiary Hazard) Group Standard 2006
HSNO Approval Number: HSR002503.

Hazard Category Harmful, Corrosive

16. OTHER INFORMATION

Date of preparation or last revision of MSDS MSDS Reviewed: January 2008
MSDS Superseded: December 2006

Contact Person/Point Australia: Business Hours: Mr Paul Verren
Telephone: (02) 9839 4024
Emergency Tel: 1800 022 037

New Zealand: Business Hours: Mr Lloyd Williams
Telephone: (09) 276 4019
Emergency Tel: 0800 154 666

IMPORTANT ADVICE: This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Nuplex Industries (Aust) Pty Ltd. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

End of MSDS

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Print Date: 30/10/2008

BS: 1.9.12