



Ferric Chloride Solution

AGent

AGent SDS: Ferric Chloride Solution [2026.01]

Version No: 2026.01

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Hazard Alert Code: 3

Issue Date: June 2026

Print Date: (auto-fills on print)

AGENT.GHS.AUS.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	Ferric Chloride Solution
Chemical Name	Iron(III) chloride solution (30-60%)
Synonyms	Liquid ferric chloride; iron(III) chloride solution
Proper shipping name	FERRIC CHLORIDE SOLUTION
Chemical formula	FeCl_3 (30-60%) in water
Other means of identification	Ferric Chloride Solution [2026.01]

Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Flocculation in municipal water supplies; phosphate removal in sewage treatment; arsenic scavenger in drinking water and mining.
Uses advised against	Not for domestic / unprotected consumer use. Do NOT store in galvanised containers.

Details of the manufacturer or supplier of the safety data sheet

Registered company name	AGent Sales & Services Pty Ltd
Address	38 May Holman Drive, Bassendean WA 6054, Australia
Telephone	(+61 8) 6270 4500 / 1300 833 844
Website	agentsales.com.au
Email	admin@agentsales.com.au

Emergency telephone number

Association / Organisation	Hazrad (outside 24-hour emergency response provider)
Emergency telephone numbers	08 9418 4200 (24-hour) — answered by Hazrad on AGent's behalf
Other emergency telephone numbers	Poisons Information Centre 131 126 (Australia) / 0800 764 766 (NZ)

SECTION 2 Hazards identification

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. Scheduled Poison S5. Classified under the WHS Regulations and the ADG Code — Class 8 Corrosive (PG III).

Poisons Schedule (SUSMP)	Schedule 5 (S5) — SUSMP
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Classification

- Corrosive to Metals Category 1 — H290
- Acute Toxicity (Oral) Category 4 — H302
- Skin Corrosion/Irritation Category 1 — H314

Label elements

Hazard pictogram(s)	
Signal word	DANGER

Hazard statement(s)

- H290 — May be corrosive to metals.
- H302 — Harmful if swallowed.
- H314 — Causes severe skin burns and eye damage.

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

- P260 — Do not breathe mist / vapours / spray.
- 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.

Precautionary statement(s) Response

- P301+P330+P331 — IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P310 — Immediately call a POISON CENTRE / doctor.
- P321 — Specific treatment (see First Aid Measures).
- P303+P361+P353 — IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water / shower.
- P363 — Wash contaminated clothing before reuse.
- P304+P340 — IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 — IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P312 — Call a POISON CENTRE / doctor if you feel unwell.

Precautionary statement(s) Storage

- P405 — Store locked up. Store in a corrosion-resistant container; do NOT use galvanised containers.

Precautionary statement(s) Disposal

- P501 — Dispose of contents/container to an approved waste disposal plant.

Other hazards

Reaction with metals may liberate flammable hydrogen. Reacts violently with alkalis.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures.

Mixtures

CAS No.	% [weight]	Name	Classification
7705-08-0	30 – 60	Ferric chloride (iron(III) chloride)	Met. Corr. 1 (H290); Acute Tox. 4 (H302); Skin Corr. 1 (H314); Eye Dam. 1 (H318)
7732-18-5	Balance	Water	Not classified

SECTION 4 First aid measures

Description of first aid measures

Eye Contact

Check for and remove any contact lenses. Immediately rinse thoroughly with plenty of running water for at least 15 minutes, keeping eyelids open. Urgently seek medical assistance — corrosive.

Skin Contact

Immediately remove contaminated clothing and wash skin and hair thoroughly with running water; continue until advised to stop by a Poisons Information Centre or doctor.

Inhalation

Remove victim from exposure — avoid becoming a casualty. Keep at rest and warm. Arrange for medical assessment as soon as possible.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek immediate medical assistance. Contact the Poisons Information Centre (Australia 131 126; New Zealand 0800 764 766).

Most important symptoms and effects, both acute and delayed

Corrosive. Eye / skin contact causes burns; eye contamination may cause permanent injury. Ingestion causes chemical burns to the GI tract; soluble-iron symptoms (epigastric pain, vomiting blood, circulatory failure) may be delayed. Inhalation of mist irritates the respiratory tract.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Corrosive injury management; for significant ingestion consider iron toxicity. Contact the Poisons Information Centre (Australia 131 126; New Zealand 0800 764 766).

First Aid facilities

Eye wash facilities and a safety shower must be available in any area where this product is handled.

SECTION 5 Firefighting measures

Extinguishing media

Not combustible. Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Special hazards arising from the substance or mixture

Fire Incompatibility

Thermally decomposes to iron oxide and (with chloride) corrosive HCl vapours. May release flammable hydrogen on contact with some metals.

Advice for firefighters

Fire Fighting

Wear self-contained breathing apparatus (SCBA) and suitable protective clothing if risk of exposure to decomposition products.

Fire / Explosion Hazard

Non-combustible aqueous acid. Corrosive vapours / hydrogen on heating or metal contact.

HAZCHEM Code	2X
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SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See Section 8 for personal protective equipment requirements.

Wear respiratory protection. Avoid breathing vapours / mist / gas. Ensure adequate ventilation. Evacuate non-essential personnel; work upwind.

Environmental precautions

Prevent product entering drains or waterways. If contamination occurs, advise local emergency services. See Section 12.

Methods and material for containment and cleaning up

Minor Spills

Slippery when spilt — clean up immediately. Wear PPE. Contain and prevent run-off. Use inert absorbent. Neutralise with lime or soda ash. Collect and seal in labelled containers for disposal per Section 13. Recover cleaning water for disposal.

Major Spills

Isolate and ventilate; work upwind. Wear full PPE. Contain, neutralise, absorb and collect as above. Notify the Environmental Protection Authority.

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling

Avoid skin and eye contact and breathing in vapour / mists / aerosols. Use PPE per Section 8.

Other information

Store in corrosion-resistant containers; do NOT use galvanised containers. Keep containers closed when not in use.

Conditions for safe storage, including any incompatibilities

Suitable container

Store in the original corrosion-resistant container, tightly closed, in a cool, dry, well-ventilated place. Do NOT use galvanised containers.

Storage incompatibility

Incompatible with alkalis (violent reaction) and oxidising agents. Mildly corrosive to metals and concrete. Store away from foodstuffs and incompatible materials (see Section 10).

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

Reference: Safe Work Australia, "Workplace Exposure Limits for Airborne Contaminants" (April 2024) by Safe Work Australia.

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
SWA WEL 2024	Iron salts, soluble (as Fe)	Ferric chloride (component)	1 mg/m ³ (as Fe)	Not assigned in SWA WEL 2024	Not assigned in SWA WEL 2024	SWA WEL 2024 soluble iron salts (as Fe) TWA 1 mg/m ³ .
SWA WEL 2024	Water	Water (component)	Not applicable	Not applicable	Not applicable	Water — no exposure limit defined.

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
Ferric chloride	Not established (DOE PAC)	Not established (DOE PAC)	Not established (DOE PAC)
Ingredient	Original IDLH	Revised IDLH	
Ferric chloride	Not established (NIOSH)	Not established (NIOSH)	

MATERIAL DATA

No whole-mixture occupational exposure data are available; manage on a per-component basis (above).

Exposure controls

Appropriate engineering controls

Apply the hierarchy of controls (WHS Reg 36). Where elimination or substitution is not reasonably practicable: provide local exhaust ventilation at points of vapour / mist generation; use closed transfer systems where possible; ensure general ventilation is adequate to keep airborne concentrations below the applicable WEL. Document the risk assessment supporting the chosen control hierarchy.

Individual protection measures, such as personal protective equipment

Eye and face protection

Safety glasses with side shields (AS/NZS 1336 & 1337) as a minimum. Chemical goggles and a face shield (AS/NZS 1336 & 1337) where splash potential exists.

Skin protection

See Hand protection below.

Hands/feet protection

Wear elbow-length chemical-resistant gloves (nitrile / PVC, per AS/NZS 2161), protective clothing, splash apron and rubber boots. Inspect gloves before use; dispose of contaminated gloves and wash hands. Tightly-fitting goggles and full face shield.

Body protection

See Other protection below.

Other protection

Long-sleeved chemical-resistant protective clothing and apron (PVC or equivalent)

Respiratory protection

If a risk assessment indicates an inhalation risk exists, wear a half-face or full-face respirator with appropriate filter (selection per AS/NZS 1715; respirator per AS/NZS 1716). Specific cartridge / canister recommendation to be confirmed during respiratory protection risk assessment per AS/NZS 1715.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Property	Value
Appearance	Liquid — dark red-brown
Physical state	Liquid
Odour	Slight HCl odour
Odour threshold	No data available in source SDS
pH (as supplied)	< 2
Melting point / freezing point (°C)	-18 °C
Initial boiling point and boiling range (°C)	105 – 110 °C
Flash point (°C)	Not applicable — non-combustible aqueous acid
Evaporation rate	No data available in source SDS
Flammability	Not flammable (liberates flammable hydrogen with metals)
Upper Explosive Limit (%)	Not applicable
Lower Explosive Limit (%)	Not applicable
Vapour pressure (kPa)	Not applicable
Solubility in water	Miscible
Vapour density (Air = 1)	No data available in source SDS
Relative density (Water = 1)	1.45
Partition coefficient n-octanol/water	Not applicable — ionic
Auto-ignition temperature (°C)	Not applicable — non-combustible
Decomposition temperature (°C)	No data available in source SDS
Viscosity (cSt)	Not Provided
Molecular weight (g/mol)	162.2 g/mol (FeCl ₃)
Taste	Not applicable — do not taste
Explosive properties	None known
Oxidising properties	None known (mild oxidiser of metals)
Surface Tension (dyn/cm or mN/m)	No data available in source SDS
Volatile Component (% vol)	Water is the main volatile fraction
Gas group	Not applicable
pH as a solution (1%)	Strongly acidic (~2)
VOC g/L	0 g/L — inorganic salt solution; no VOC

SECTION 10 Stability and reactivity

Reactivity	Reacts with strong oxidants (fire / explosion hazard) and violently with alkalis. See Section 7.
Chemical stability	Stable under recommended storage conditions.

Possibility of hazardous reactions	Hazardous polymerisation will not occur. Liberates flammable hydrogen with some metals.
Conditions to avoid	Direct sunlight; extreme temperatures; incompatible materials.
Incompatible materials	See Section 7. Alkalis; oxidising agents; metals (mildly corrosive); concrete.
Hazardous decomposition products	See Section 5. Iron oxide; corrosive HCl vapours.

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled

Mist / aerosol irritates the respiratory tract.

Ingestion

Harmful if swallowed (H302). Causes chemical burns to the GI tract; soluble-iron toxicity (delayed epigastric pain, haematemesis, circulatory failure) possible.

Skin Contact

Corrosive — causes burns (H314).

Eye

Corrosive — corneal burns; contamination can cause permanent injury.

Chronic

No specific chronic-effect data for the product in the source SDS.

Per-ingredient toxicity

Ingredient	TOXICITY	IRRITATION
Ferric chloride	Oral LD50 (rat): 316 mg/kg; Oral LD50 (mouse): 200 mg/kg	Corrosive (Skin Corr. 1 / serious eye damage)
Water	Not applicable	Not applicable

Hazard checklist (whole-product classification basis)

Hazard endpoint	Classified	Hazard endpoint	Classified
Acute Toxicity	✓	Carcinogenicity	—
Skin Irritation/Corrosion	✓	Reproductive Toxicity	—
Serious Eye Damage/Irritation	✓	STOT — Single Exposure	—
Respiratory or Skin Sensitisation	—	STOT — Repeated Exposure	—
Mutagenicity	—	Aspiration Hazard	—

Legend: ✓ = Data available to make classification; — = Data either not available or does not fill the criteria for classification.

Information on possible routes of exposure

Absorbed by inhalation of aerosol, ingestion, skin and / or eye contact.

Additional Information

RTECS	Not available
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SECTION 12 Ecological information

Toxicity

Ingredient	Endpoint	Test Duration	Species	Value	Source
Ferric chloride	pH effect / iron	Not Provided	Aquatic organisms (general)	Harmful via low pH and iron-floc smothering; no quantitative LC50 in source SDS	AGent SDS
Ferric chloride	No quantitative data	Not applicable	Not applicable	No quantitative ecotoxicity data in source SDS	AGent SDS

Environmental precaution: Prevent entry to drains, waterways and soak-aways. Notify the relevant Environmental Protection Authority if waterway contamination occurs.

Persistence and degradability

Ingredient	Persistence: Water / Soil	Persistence: Air
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Ferric chloride	Not applicable in the OECD sense — inorganic salt; hydrolyses to iron(III) hydroxide and chloride; acidity neutralises on dilution.	Not applicable — aqueous product.
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Bioaccumulative potential

Ingredient	Bioaccumulation
Ferric chloride	Not expected to bioaccumulate (iron precipitates as hydroxide).

Mobility in soil

Ingredient	Mobility
Ferric chloride	Soluble and mobile in water; precipitates as Fe(OH) ₃ at neutral pH.

Other adverse effects

Acidic / iron-bearing — may depress pH and cause iron-floc smothering. Avoid uncontrolled discharge to waterways.

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

- Recycle wherever possible.
- Ensure waste disposal conforms to all relevant local, state and federal authority waste disposal regulations.
- Do NOT discharge into sewers or waterways.
- Empty containers should be returned via AGent's Closed Loop container return program where applicable.
- Whatever cannot be saved for recovery or recycling should be managed through an approved waste disposal facility.
- Neutralise cautiously (lime / soda ash) before disposal; dispose of in accordance with local, state and federal regulations.

SECTION 14 Transport information

Labels Required	Class 8 (Corrosive) — see ADG Table 3.2.3
Marine Pollutant	No
HAZCHEM Code	2X

Land transport (ADG)

UN number	2582
UN proper shipping name	FERRIC CHLORIDE SOLUTION
Transport hazard class(es)	Class 8 (Corrosive); Subsidiary Hazard: Not Applicable
Packing group	III
Environmental hazard	Not Applicable
Special precautions for user	ADG Table 3.2.3 (UN 2582 PG III): Special provisions, limited quantity and packaging instructions per ADG Edition 7.9 (Table 3.2.3).
ERG / EIP number	ANZ-ERG 2024 Guide 154 (Substances - Toxic and/or Corrosive, Non-Combustible).

Air transport (ICAO-IATA / DGR)

UN number	2582
UN proper shipping name (lowercase)	Ferric chloride solution
ICAO/IATA Class	Class 8; ERG Code: Not Applicable — AGent does not air-freight
Packing group	III
Environmental hazard	Not Applicable
Special provisions	Not Applicable — AGent does not transport this product by air. Refer to land transport (ADG) above.
Cargo Only Packing Instructions	Not Applicable — AGent does not transport this product by air. Refer to land transport (ADG) above for the applicable classification.
Cargo Only Max Qty/Pack	Not Applicable — AGent does not transport this product by air. Refer to land transport (ADG) above for the applicable classification.
Passenger and Cargo Packing Instructions	Not Applicable — AGent does not transport this product by air. Refer to land transport (ADG) above for the applicable classification.
Passenger and Cargo Max Qty/Pack	Not Applicable — AGent does not transport this product by air. Refer to land transport (ADG) above for the applicable classification.

Sea transport (IMDG-Code / GGVSee)

UN number	2582
UN proper shipping name	FERRIC CHLORIDE SOLUTION
IMDG Class	Class 8
Packing group	III
Environmental hazard	Not a Marine Pollutant
EMS Number	F-A, S-B
Special provisions	Not Applicable — AGent does not export this product or transport it by sea. Refer to land transport (ADG) above.

Transport in bulk according to MARPOL Annex II and the IBC Code

Not Applicable — AGent does not transport this product in bulk by sea.

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
Ferric Chloride Solution	Not Applicable — AGent does not transport this product in bulk by sea.

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
Ferric Chloride Solution	Not Applicable — AGent does not transport this product in bulk by sea.

SECTION 15 Regulatory information**Safety, health and environmental regulations / legislation specific for the substance or mixture**

FERRIC CHLORIDE (CAS 7705-08-0) is found on / assessed against the following regulatory lists:

- Australia Hazardous Chemical Information System (HCIS): Met. Corr. 1 / Acute Tox. 4 / Skin Corr. 1 / Eye Dam. 1
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): Schedule 5 (S5)
- Australian Inventory of Industrial Chemicals (AIIC): Listed
- IARC Group classification: Not classified
- Schedule 10 of the model WHS Regulations (prohibited / restricted carcinogens): Not listed
- Schedule 14 of the model WHS Regulations (health monitoring trigger): Not listed

Additional Regulatory Information

Subject to: Work Health and Safety (General) Regulations 2022 (WA); "Workplace Exposure Limits for Airborne Contaminants" (April 2024) by Safe Work Australia; Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code) current edition.

National Inventory Status

Country / Inventory	Listed
Australia (AIIC / AICS)	Yes
Canada (DSL)	Not applicable — AGent does not export this product
Canada (NDSL)	Not applicable — AGent does not export this product
China (IECSC)	Not applicable — AGent does not export this product
Europe (EINECS / ELINCS / NLP)	Not applicable — AGent does not export this product
Japan (ENCS)	Not applicable — AGent does not export this product
Korea (KECI)	Not applicable — AGent does not export this product
New Zealand (NZIoC)	Not applicable — AGent does not export this product
Philippines (PICCS)	Not applicable — AGent does not export this product
USA (TSCA)	Not applicable — AGent does not export this product
Taiwan (TCSI)	Not applicable — AGent does not export this product
Mexico (INSQ)	Not applicable — AGent does not export this product
Vietnam (NCI)	Not applicable — AGent does not export this product
Russia (FBEPH)	Not applicable — AGent does not export this product

Legend: Yes = All CAS declared ingredients are on the inventory; No = One or more CAS listed ingredients are not on the inventory (may be exempt or require registration).

SECTION 16 Other information

Revision Date	June 2026
Initial Date	June 2026 (AGent 2026 format)

SDS Version Summary

Version	Date of Update	Sections Updated
2026.01 (AGent 2026 format)	June 2026	Reformatted from legacy V2.2 to AGent 2026 layout. §8 updated to SWA WEL 2024 (soluble iron as Fe 1 mg/m ³); §14 ERG updated to ANZ-ERG 2024 Guide 154; removed superseded legacy abbreviations and exposure-standard references; AICS updated to AIIC. Classification unchanged (Met. Corr. 1, Acute Tox. 4, Skin Corr. 1, Eye Dam. 1; DG Class 8 PG III; S5).
V2.2 (legacy AGent format)	March 2023	Older format. Same hazard classification and DG transport status (UN 2582 / Class 8 / PG III).

Other information

This SDS is intended as a hazard communication tool to assist in workplace Risk Assessment. It is not an Australian Standard or a definitive document.

Definitions and abbreviations

Abbreviation	Definition
ADG	Australian Dangerous Goods Code
AICS / AIIC	Australian Inventory of Industrial Chemicals (formerly AICS)
AUH	Additional / Australian Hazard statements
BCF	Bioconcentration Factor
BEI	Biological Exposure Index
CAS	Chemical Abstracts Service Registry Number
DNEL	Derived No Effect Level
DSEN	Dermal sensitiser (SWA WEL 2024 notation)
EC50	Effect Concentration causing effect in 50% of test population
EMS	IMDG Emergency Schedule
ERG / EIP	Emergency Response Guide / Emergency Information Panel (SAA/SNZ HB76)
ES	Exposure Standard (legacy term — now WEL)
GHS	Globally Harmonised System of Classification and Labelling
HCIS	Hazardous Chemical Information System (Safe Work Australia)
IARC	International Agency for Research on Cancer
IDLH	Immediately Dangerous to Life or Health
LC50	Lethal Concentration causing death in 50% of test population
LD50	Lethal Dose causing death in 50% of test population
LOAEL	Lowest Observed Adverse Effect Level
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
OEL	Occupational Exposure Limit
OTO	Ototoxic (SWA WEL 2024 notation)
PC-STEL	Permissible Concentration — Short Term Exposure Limit
PC-TWA	Permissible Concentration — Time Weighted Average
PNEC	Predicted No Effect Concentration
RSEN	Respiratory sensitiser (SWA WEL 2024 notation)
SDS	Safety Data Sheet
Sk	Skin notation — absorption through the skin a significant route
STEL	Short Term Exposure Limit (15 min TWA)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TEEL	Temporary Emergency Exposure Limit

TLV	Threshold Limit Value
TWA	Time Weighted Average (8 hr / 40 hr week)
WEL	Workplace Exposure Limit (Safe Work Australia, April 2024)
WHS	Work Health and Safety

Disclaimer

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