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SALES & SERVICES

Safety Data Sheet

1. IDENTIFICATION OF THE PRODUCT AND THE SUPPLIER

1.1 Product identifiers

Product name : FERRIC SULPHATE SOLUTION

1.2 Other means of identification

Liquid ferric sulphate

1.3 Recommended use of the product and restrictions on use

Flocculation in municipal water supplies; phosphate removal in sewage treatment; arsenic scavenger in drinking water and mining processes

1.4 Details of supplier of the safety data sheet

Company	: AGent Sales & Services Pty Ltd
Street address	: 38 May Holman Drive, Bassendean, Western Australia 6054
Telephone	: (+61 8) 6270 4500
Fax	: (+61 8) 6270 4544

1.5 Emergency telephone number

Telephone : 1300 883 844

2. HAZARDS IDENTIFICATION

2.1 GHS Classification

Corrosive to metals (Category 1)
Skin corrosion (Category 1)
Serious eye damage (Category 1)

GHS Label elements, including precautionary statements

Pictogram :

Signal word : Danger

Hazard statement(s)

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.

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.

Response

P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363	Wash contaminated clothing before re-use.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see First Aid Measures on Safety Data Sheet).
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.

Storage

P405	Store locked up.

Disposal

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

2.2 Other hazards

None.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Number	Classification	Concentration (%)
Ferric sulphate	10028-22-5	Met. Corr. 1; Skin Corr. 1; Eye Dam. 1; H290; H302; H314; H318	30 - 60
Water	7732-18-5	-	Balance

For the full text of the H-Statements mentioned in this section, see Section 16

4. FIRST AID MEASURES

4.1 Description of First Aid measures

General advice

Contact the Poisons Information Centre (Phone: Australia 131 126; New Zealand 0800 764 766) or consult a doctor/physician. Show this safety data sheet to the doctor in attendance.

If inhaled

Remove victim from area of 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. For all but the most minor symptoms arrange for patient to be seen by a doctor as soon as possible, either on site or at the nearest hospital.

In case of skin contact

If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor.

In case of eye contact

In case of eye contact, check for and remove any contact lenses. Immediately rinse thoroughly with plenty of running water until advised to stop by a Poisons Information Centre or doctor, or for at least 15 minutes, keeping eyelids open. Urgently seek medical assistance. Transport promptly to hospital or medical centre.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek immediate medical assistance.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in Section 2.2 and/or Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Can cause corneal burns

4.4 First Aid facilities

Eye wash facilities and safety shower should be available.

5. FIRE FIGHTING MEASURES

5.1 Suitable extinguishing media

Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

5.2 Special hazards arising from the chemical

Thermally decomposes to form iron oxide and sulphur trioxide. May release flammable/explosive hydrogen gas on contact with some metals.

5.3 Special protective equipment and precautions for fire fighters
Wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

5.4 Hazchem code
2X

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.
For personal protection see Section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. If contamination of sewers or waterways has occurred, advise local emergency services. Observe all local and national regulations.

6.3 Methods and materials for containment and cleaning up
Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Neutralise with lime or soda ash. Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water. Recover the cleaning water for subsequent disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid skin and eye contact and breathing in vapour, mists and aerosols.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool, dry and well-ventilated place. Store away from incompatible materials described in Section 10. Store away from foodstuffs. Store in corrosion resistant containers. Do not store in galvanised containers. Keep containers closed when not in use - check regularly for leaks.

This material is classified as a Dangerous Goods Class 8 Corrosive by the criteria of the ADG Code and must be stored and handled in accordance with the relevant regulations.

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters
Occupational Exposure Limits
None allocated for this product. However, exposure standard for constituent(s) is:

Chemical Name	Reference	TWA – Peak Limitation		STEL		Carcinogen Category	Notices
		ppm	mg/m^3	ppm	mg/m^3		
Iron salts, soluble (as Fe)	ASCC	-	1	-	-	-	-

As published in "*Workplace Exposure Standards for Airborne Contaminants, December 2011"* by SWA.

These Workplace 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 workplace 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.

Biological Limits
None allocated for this product.

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results

documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements

Personal protective equipment (PPE)

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods and environmental factors.

Eye/face protection
Tightly fitting safety goggles, full faceshield. See Australian Standards (AS/NZS 1336 & 1337).

Skin protection
Wear protective gloves (elbow length), protective clothing and safety footwear (complete suit protecting against chemicals, splash apron and rubber boots) appropriate for the risk of exposure. See Australian Standards (AS 2161 & 2919 and AS/NZS 2210). Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination or type ABEK respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. See Australian Standards (AS/NZS 1715 & 1716).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form : Liquid Colour : Dark red-brown to black
Odour:	Odourless
Odour Threshold:	No data available
pH:	< 2
Melting Point:	-18ºC
Boiling Point/Range:	112ºC
Decomposition Temperature:	No data available
Evaporation Rate:	No data available
Flash Point:	Not applicable
Flammability Limits:	Not applicable
Specific Gravity:	1.50 – 1.58 @ 25ºC
Vapour Density (air=1):	No data available
Vapour Pressure:	Not applicable
% Volatiles:	No data available
Solubility in water:	Miscible with water

10. STABILITY AND REACTIVITY

10.1 Reactivity
Reacts with strong oxidants causing fire and explosion hazard. May react violently with alkalis.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur..

10.4 Conditions to avoid
Avoid exposure to direct sunlight. Extremely high or low temperatures. Incompatible materials.

10.5 Incompatible materials
Incompatible with alkalis. Mildly corrosive to metals and concrete.

10.6 Hazardous decomposition products
Corrosive vapours. Sulphur oxides.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
Ferric sulphate is not list as a carcinogen by NTP, IARC, or OSHA. For sulphuric acid, the IARC concludes that strong inorganic mists containing sulphuric acid is carcinogenic to man. However, sulphuric acid itself is not considered a human carcinogen. Based on IARC studies, no definitive relationship has been shown between increased risk of respiratory tract cancer and sulphuric acid alone. Sulphuric acid can react with other substances to form mutagenic and possibly carcinogenic products such as alkyl sulphates.

Reproductive toxicity
No data available.

Specific target organ toxicity (STOT) - single exposure
No data available.

Specific target organ toxicity (STOT) - repeated exposure
No data available

Aspiration hazard
No data available (Hydrochloric acid)

Health Effects
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:

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

Skin contact : Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.

Ingestion : Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract. Symptoms of swallowing large amounts of soluble iron compounds may be delayed several hours and can include epigastric pain, vomiting blood and circulatory failure.

Inhalation : Breathing in mists or aerosols will produce respiratory irritation

11.2 Information on possible routes of exposure
The substance can be absorbed into the body by inhalation of its aerosol, ingestion, skin and/or eye contact.

11.3 Additional Information
No data available

12. ECOGICAL INFORMATION

12.1 Ecotoxicity
Avoid contaminating waterways.

Toxicity to fish:
No data available

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods and containers
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.

13.3 Special precautions for landfill or incineration
Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

Classified as a Dangerous Goods by the criteria of the ADG Code for transport by road or rail
Classified as a Dangerous Goods by the criteria of the IMDG Code for transport by sea
Classified as a Dangerous Goods by the criteria of the IATA Code for transport by air

14.1 UN number
ADG : 3264 **IMDG :** 3264 **IATA :** 3264

14.2 Proper shipping name
ADG : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS FERRIC SULPHATE)
IMDG : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS FERRIC SULPHATE)
IATA : CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (CONTAINS FERRIC SULPHATE)

14.3 Transport hazard class
ADG : 8 Corrosive **IMDG :** 8 Corrosive **IATA :** 8 Corrosive

14.4 Packing group
ADG : II **IMDG :** II **IATA :** II

14.5 Environmental hazards
ADG : No **IMDG Marine Pollutant :** No **IATA :** No

14.6 Special precautions for users No data

14.7 Hazchem code
ADG : 2X **IMDG EMS :** F-A, S-B

14.8 Dangerous goods initial emergency response guide (SAA/SNZ HB76:2010) 37

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)
S5 Poison

Carcinogen classification under WHS Regulations 2011, Schedule 10
Not listed

Notification status
AICS On the inventory, or in compliance with the inventory.

16. OTHER INFORMATION

Key / legend to abbreviations and acronyms used in the MSDS

ADG	Australian Dangerous Goods
ASCC	Australian Safety and Compensation Council
DEC	Department of Environment and Conservation
GHS	Globally Harmonised System of Classification & Labelling of Chemicals
NOHSC	National Occupational Health and Safety Commission

RTECS	Registry of Toxic Effects of Chemical Substances.
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage
Eye Dam.	Serious eye damage
Met. Corr.	Corrosive to metals
Skin Corr.	Skin corrosion
TWA	Time weighted average
STEL	Short term exposure level
SWA	Safe Work Australia
Peak Limitations	A ceiling concentration that should not be exceeded over a measurement period, which should be as short as possible, but not exceeding 15 minutes
LD_{50}	Lethal dose 50. The single dose of a substance that causes the death of 50% of an animal population from exposure to the substance by any route other than inhalation
LC_{50}	Lethal concentration that kills 50% of an animal population within a specified time
TD Lo	The lowest dose of a substance known to have produced signs of toxicity
RTECS	Registry of Toxic Effects of Chemical Substances
g/L	Grams per litre
g/cm^3	Grams per cubic centimetre
mg/m^3	Milligrams per cubic metre
mg/kg	Milligrams per kilogram
pH	Relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline
WHS	Work Health and Safety

Literature references

"Workplace Exposure Standards for Airborne Contaminants, December 2011" by SWA Work Health and Safety Regulations 2011

"Registry of Toxic Effects of Chemical Substances". Ed. D. Sweet, US Dept. of Health & Human Services: Cincinatti, 2012.

Reason(s) for Issue:

Revised primary SDS
Alignment to GHS requirements

Disclaimer

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