

1. IDENTIFICATION

Product Name	Ferrous Sulphate Heptahydrate
Other Names	Iron (II) Sulphate (1:1) Heptahydrate; Iron Protosulfate; SULFURIC ACID, IRON(2+)SALT(1:1), HEPTAHYDRATE
Uses	Water and sewage treatment; reducing agent; wood preservative; fertiliser; chemical manufacture.
Chemical Family	No Data Available
Chemical Formula	Fe.H2O4S.7H2O
Chemical Name	Ferrous Sulphate Heptahydrate
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) Not scheduled

Globally Harmonised System

Hazard Classification	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Hazard Categories	Acute Toxicity (Oral) - Category 4 Serious Eye Damage/Irritation - Category 2A Skin Corrosion/Irritation - Category 2



Pictograms



Signal Word

Warning

Hazard Statements

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary Statements

Prevention	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 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
		P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	Disposal	P321	Specific treatment (see First Aid Measures on Safety Data Sheet).
		P330	Rinse mouth.
		P332 + P313	If skin irritation occurs: Get medical advice/attention.
		P337 + P313	If eye irritation persists: Get medical advice/attention.
P362		Take off contaminated clothing and wash before reuse.	
P501		Dispose of contents/container in accordance with local / regional / national / international regulations.	

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications

Health Hazards	6.1D	Substances that are acutely toxic - Harmful
	6.3A	Substances that are irritating to the skin
	6.4A	Substances that are irritating to the eye
Environmental Hazards	9.1D	Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action
	9.3C	Substances that are harmful to terrestrial vertebrates

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Ferrous Sulfate Heptahydrate	No Data Available	7782-63-0	90.0 - 100.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed

Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by the mouth to an unconscious patient. Seek immediate medical assistance.

Eye

If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.



Skin	If skin or hair contact occurs, immediately remove any contaminated clothing and wash skin and hair thoroughly with running water. If swelling, redness, blistering or irritation occurs seek medical assistance.
Inhaled	Remove victim from area of exposure - avoid becoming a casualty. Seek medical advice if effects persist.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.
Medical Conditions Aggravated by Exposure	No information available on medical conditions which are aggravated from exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	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.
Flammability Conditions	Product is a non-flammable solid.
Extinguishing Media	Not combustible, however, if material is involved in a fire use: Extinguishing media appropriate to surrounding fire conditions.
Fire and Explosion Hazard	Non-combustible material.
Hazardous Products of Combustion	Decomposes on heating emitting toxic fumes, including those of oxides of sulfur .
Special Fire Fighting Instructions	Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Personal Protective Equipment	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. 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.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Personnel involved in the clean up should wear full protective clothing as listed in section 8. Evacuate all unnecessary personnel. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management
Clean Up Procedures	Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled container and dispose of promptly as hazardous waste. Place under an inert atmosphere.
Containment	Stop leak if safe to do so. Isolate the danger area.
Environmental Precautionary Measures	Do NOT let product reach drains or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management.
Evacuation Criteria	Evacuate all unnecessary personnel.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

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 product dust/fumes. Remove contaminated clothing and wash before reuse. Do not ingest or inhale. Handle under an inert atmosphere. Store protected from air.
-----------------	--



Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Store protected from air. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.
Container	Container type/packaging must comply with all applicable local legislation. Store in original packaging as approved by manufacturer.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s): Iron salts, soluble (as Fe): 8hr TWA = 1 mg/m ³ . As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants
Exposure Limits	No Data Available
Biological Limits	No information available on biological limit values for this product.
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.
Personal Protection Equipment	RESPIRATOR: Wear an approved respirator where dusts/vapours are generated and engineering controls are inadequate (AS1715/1716) EYES: Use chemical safety goggles and/or a full face shield (AS1336/1337). HANDS: Wear protective gloves (AS2161). CLOTHING: Long-sleeved protective clothing and safety footwear (AS3765/2210).
Work Hygienic Practices	No Data Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Solid
Odour	Odourless
Colour	Light Grey to Off-white or White
pH	3.7 10% solution
Vapour Pressure	No Data Available
Relative Vapour Density	No Data Available
Boiling Point	>300°C (Decomposes) °C
Melting Point	64
Freezing Point	64 °C
Solubility	Soluble in water 25°C
Specific Gravity	1.898 water = 1
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	>300°C (Decomposes) °C
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available



Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No Data Available
Potential for Dust Explosion	Non-combustible material.
Fast or Intensely Burning Characteristics	No Data Available
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	No Data Available
Reactions That Release Gases or Vapours	No Data Available
Release of Invisible Flammable Vapours and Gases	No Data Available

10. STABILITY AND REACTIVITY

General Information	Hygroscopic: absorbs moisture or water from surrounding air.
Chemical Stability	Stable.
Conditions to Avoid	Avoid excessive heat, generating dust, direct sunlight, moisture, static discharges and high temperatures.
Materials to Avoid	Incompatible with alkalis , oxidising agents , soluble carbonates, gold and silver salts, lead acetate, lime water, potassium, potassium iodide, sodium tartrate, sodium borate, tannin, vegetable astringent infusions and decoctions.
Hazardous Decomposition Products	During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Burning may produce sulfur oxides.
Hazardous Polymerisation	Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	Oral LD50 (rat): 319 mg/kg. Evidence indicates that repeated or prolonged exposure to this chemical could result in effects on the liver.
Eyelrritant	Causes irritation to eyes with redness and pain.
Ingestion	Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation. 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 dust may result in respiratory irritation.
SkinIrritant	Causes irritation to skin. Symptoms include redness, itching and pain.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	No ecological information available for this product.
Persistence/Degradability	No information available on persistence/degradability for this product.
Mobility	No information available on mobility for this product.



Environmental Fate	Do not allow product to enter waterways, drains or sewers.
Bioaccumulation Potential	No information available on bioaccumulation for this product.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	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.
Special Precautions for Land Fill	Contact a specialist disposal company or the local waste regulator for advice. This should be done in accordance with 'The Hazardous Waste Act'.

14. TRANSPORT INFORMATION

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	FERROUS SULPHATE HEPTAHYDRATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	FERROUS SULPHATE HEPTAHYDRATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	FERROUS SULPHATE HEPTAHYDRATE
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available



Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	Not scheduled

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR003427
----------------------	-----------

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	FESULP0600, FESULP0601, FESULP0700, FESULP0800, FESULP0801, FESULP1300, FESULP1400, FESULP1500, FESULP1501, FESULP1502, FESULP1600, FESULP1601, FESULP1700, FESULP1701, FESULP1800, FESULP1801, FESULP1802, FESULP1803, FESULP1804, FESULP1805, FESULP1806, FESULP1807, FESULP1808, FESULP1809, FESULP1810, FESULP1811, FESULP1812, FESULP1813, FESULP1814, FESULP1815, FESULP1816, FESULP1817, FESULP1818, FESULP1819, FESULP1820,
------------------------------	---



FESULP1821, FESULP1822, FESULP1823, FESULP1824, FESULP1825, FESULP1826, FESULP1827, FESULP1900, FESULP2000, FESULP2100, FESULP2400, FESULP2500, FESULP2900, FESULP3500, FESULP3501, FESULP3502, FESULP3510, FESULP3900, FESULP3901, FESULP3902, FESULP3903, FESULP4100, FESULP4500, FESULP4501, FESULP4502, FESULP4600, FESULP4800, FESULP4900, FESULP5000, FESULP5001, FESULP5100, FESULP5200, FESULP5300, FESULP5400, FESULP5500, FESULP5501, FESULP5502, FESULP5503, FESULP5504, FESULP6000, FESULP6001, FESULP6100, FESULP6200, FESULP6500, FESULP6600, FESULP6605, FESULP6606, FESULP6607, FESULP6608, FESULP6609, FESULP6610, FESULP6611, FESULP6612, FESULP6613, FESULP6614, FESULP6630, FESULP6640, FESULP6645, FESULP6650, FESULP7000, FESULP7001, FESULP7400, FESULP7500, FESULP8000, FESULP8001, FESULP8200, FESULP8300, FESULP8600, FESULP9000, FESULP9500, FESULP9600, FESULP9800, FESULP9900, FESULP9901, FESUPH1000, FESUPH1500, FESUPH2000, FESUPH2500

Revision

2

Revision Date

27 Jul 2015

Key/Legend

< Less Than
 > Greater Than
AICS Australian Inventory of Chemical Substances
atm Atmosphere
CAS Chemical Abstracts Service (Registry Number)
cm² Square Centimetres
CO₂ Carbon Dioxide
COD Chemical Oxygen Demand
deg C (°C) Degrees Celcius
EPA (New Zealand) Environmental Protection Authority of New Zealand
deg F (°F) Degrees Farenheit
g Grams
g/cm³ Grams per Cubic Centimetre
g/l Grams per Litre
HSNO Hazardous Substance and New Organism
IDLH Immediately Dangerous to Life and Health
immiscible Liquids are insoluable in each other.
inHg Inch of Mercury
inH₂O Inch of Water
K Kelvin
kg Kilogram
kg/m³ Kilograms per Cubic Metre
lb Pound
LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.
ltr or **L** Litre
m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations



wt Weight

