

Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER

PRODUCT IDENTIFIER

Product Name:	Ferrous Sulphate Monohydrate
Chemical Name[s] or Synonyms:	Ferrous sulphate monohydrate; Sulfuric acid, iron salt, monohydrate; Iron vitriol, monohydrate; Iron mono sulphate
Proper Shipping Name:	Ferrous Sulphate Powder
Chemical Name:	FeSO4 H2O
Product Code:	R-F1175 – R-F1200
CAS Number:	17375-41-6 [monohydrate]; 7720-78-7 [anhydrous]

PRODUCT USE

Recommended Use:	Feed additives, fertiliser, raw material for iron compounds, reducing agent in cement, flocculent in water treatment
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SUPPLIER DETAILS

Company Name:	Metabolik
Address:	50 Central Park Drive, Henderson, Auckland 0610, New Zealand
Telephone:	0064 9 834 3783
Email:	info@imageholdings.co.nz
Website:	www.imageholdings.co.nz

EMERGENCY TELEPHONE NUMBERS

National Poisons Information Centre:	0800 POISON (0800 764 766)
Emergency Telephone Number:	0800 764 766
Other Emergency Numbers:	0064 21 934 058
Transport Emergency:	111: Tell operator what service is needed: Fire, Ambulance, Police.
Please ensure that the limitations of this Safety Data Sheet are referred to as set out in Section 16: Other Information at the end of this document.	

Section 2: HAZARD IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR COMPOSITION

Transport Classification:	Not Classified as a Dangerous Goods according to NZS 5433:2012 Transport of Dangerous Goods on Land
Hazard Classifications:	Classified as hazardous according to criteria in the HS (minimum Degrees of Hazard) Regulations 2001
Approval Number:	HSR003420
Classification Determined by using GHS/HSNO Criteria:	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 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

LABEL REQUIREMENTS

Signal Word: **WARNING**



Pictogram:

HAZARD STATEMENT[s]

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

PRECAUTIONARY STATEMENT(s):

Prevention:
P264: Wash ... thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P280: Wear protective gloves/protective clothing/eye protection/face protection. [As modified by IV ATP]

Response:	<p>P301+312: IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell. [As modified by IV ATP]</p> <p>P302+352: IF ON SKIN: Wash with plenty of water/... [As modified by IV ATP]</p> <p>P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.</p> <p>P321: Specific treatment (see ... on this label).</p> <p>P330: Rinse mouth.</p> <p>P332+313: If skin irritation occurs: Get medical advice/attention.</p> <p>P337+313: If eye irritation persists get medical advice/attention.</p> <p>P362: Take off contaminated clothing. [As modified by IV ATP]</p>
Storage:	<p>P402+404: Store in a dry place. Store in a closed container.</p>
Disposal:	<p>P501: Dispose of contents/container <i>in accordance with local/regional/national/international regulation</i>].</p>

Section 3: COMPOSITION INFORMATION

COMPONENT	CAS No.	PROPORTION	HAZARD CODES
Ferrous Sulphate	17375-41-6 7720-78-7	90 – 100%	6.1D, 6.3A, 6.4A, 9.1D, 9.3C

Section 4: FIRST AID MEASURES

FIRST AID MEASURES

Consult the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately in every case of suspected poisoning.

Inhalation:	<p>If Inhalation of product occurs:</p> <ul style="list-style-type: none"> • Remove patient from area of exposure – avoid becoming a casualty. • Remove contaminated clothing and loosen remaining clothing • Allow patient to assume comfortable position and keep warm and rested. • Provide emergency airway support if required • If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. • Seek medical help if effects persist
Ingestion:	<p>If ingestion occurs:</p> <ul style="list-style-type: none"> • DO NOT induce vomiting. • Clean mouth with Water and then drink plenty of water, seek medical attention. • For advice, contact the National Poisons Centre on 0800 POISON (0800 764 766) or Doctor • Never give anything by mouth to an unconscious person. • Seek medical assistance immediately
Skin:	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> • Remove all contaminated clothing immediately • Wash affected area thoroughly with water • Seek immediate medical assistance if irritation occurs.
Eye:	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> • Immediately hold eyelids open and flush the eye continuously with running water • Continue flushing until advised to stop by Poisons Information Centre or a doctor, or for at least 15 minutes to prevent permanent injury • Remove contact lenses if present and easy to do. • Seek medical assistance
Advice to Doctor:	Treat symptomatically. Refer to National Poisons & Hazardous Chemicals Information Centre 0800 764 766

Section 5: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

If material is involved in fire use:	<ul style="list-style-type: none"> ▪ There is not restriction on type of media which may be used ▪ Use extinguishing media suitable for surrounding fire based on surrounding materials ▪ Use Carbon dioxide or suitable dry chemical extinguisher ▪ Water Fog or Water Spray ▪ Do not use water jets
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SPECIFIC HAZARDS

Hazards of Combustion:	Decomposes emitting toxic fumes, including those of Oxides of Sulphur
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ADVICE TO FIREFIGHTERS

- Fire Fighting**
- Alert Fire Brigade and tell them location and nature of hazard
 - Wear self-contained breathing apparatus plus suitable protective clothing
 - Prevent, spillage from entering drains and water courses
 - Use firefighting procedures suitable for surrounding area
- Protective Equipment:**
- Fire fighters should wear a positive pressure self-contained breathing apparatus [SCBA]
 - protective firefighting clothing [includes firefighting helmet, coat, trousers, boots and gloves]
 - chemical splash suit
- Fire/Explosion Hazard:** Non-combustible material. Decomposition may produce toxic fumes of: oxides of sulphur
- Hazchem Code:** No data available

Section 6: ACCIDENTAL RELEASE MEASURES

- PERSONAL PRECAUTIONS** Wear suitable protective clothing, **See section 8**
- ENVIRONMENTAL PRECAUTIONS** Do not allow container or product to enter drains, sewers, streams or ponds. If contamination occurs advise local emergency services **See Section 12**

SPILLS & CONTAINMENT

- Minor Spill**
- Contain Spill
 - Allow only trained personnel wearing appropriate protective equipment to be involved in spill response.
 - Avoid accidents, clean up immediately.
 - Increase ventilation.
 - Avoid walking through spilled product.
 - Isolate the danger area.
 - Use clean, non-sparking tools and equipment.
 - Mechanically collect as much of the spill as possible
- Major Spill**
- **Low Hazard**
 - Contain Spill
 - CAUTION: Advise personnel in area / surrounding area
 - Contact Emergency Services [111], inform them of location and nature of hazard
 - Allow only trained personnel wearing appropriate protective equipment to be involved in spill response.

- DISPOSAL**
- Reuse if possible
 - Spill on areas other than pavement, dirt or sand may be handled by removing the affected soils and placing into approved containers
 - Transfer to suitable, labelled, corrosion-resistant containers and dispose of promptly as hazardous waste.
 - Dispose of in accordance with local and national regulations

Section 7: HANDLING AND STORAGE

HANDLING PRECAUTIONS

- Safe Handling**
- Ensure an eye bath and safety shower are available and ready to use.
 - Avoid Personal contact, including inhalation
 - Wear protective clothing when risk of exposure occurs
 - Use in well ventilated area
 - Keep out of reach of children
- Approved Handler:** Not Applicable
Tracking: Not Applicable
Record Keeping: Not Applicable

STORAGE PRECAUTIONS

- Safe Storage:**
- Store in original containers
 - Keep containers closed when not in use
 - Store in a cool, dry, well ventilated place
 - Keep out of direct sunlight.
 - Store away from sources of heat or ignition.
 - Check regularly for spills.
 - Store away from incompatible materials, foodstuff and containers
- Storage Incompatibility:**
- 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
- Other Information:**
- Dispose of in accordance with regulatory authority, local and national guidelines
 - Always read label before use.

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application.

CONTROL PARAMETERS

Ingredient Data:

Source	Ingredient	TWA	STEL	Notes
NZ Workplace Exposure Standards [WES]	Iron salt as Fe	1 mg/m ³		

EXPOSURE CONTROLS

Engineering Controls:

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection

Protective Equipment:



Eye & Face Protection:

- Chemical goggles
- Restrict use of contact lenses

Skin Protection:

- Wear resistant gloves
- Always wash hands before eating, drinking or using facilities
- Protective foot wear

Respiratory Protection:

- Particulate. [AS/NZ 1716, EN 143:2000 & 149:001, ANSI Z88 or national equivalent]

Body Protection:

- Overalls
- PVC Apron
- Barrier cream

Other Protection:

- Eyewash Unit

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	light grey to off white powder or granule	Vapour Density [Air=1]:	Not Applicable
Physical State:	Solid	Relative Density [Water=1]:	2.97 g/cm ³
Odour:	Odourless	Auto Ignition Temp [°C]:	Not Flammable
Odour Threshold:	Not Applicable	Decomposition Temp:	Not Applicable
pH [1% Solution]:	2.5 – 5.0	Viscosity [cSt]:	Not Relevant
Melting Point / Freezing Point:	64	Molecular Weight [g/mol]:	Not Available
Initial Boiling Point / Range:	> 300°C	Taste:	Not Available
Flash Point [°C]:	Not Applicable	Explosive Properties:	No Explosive Properties
Evaporation Rate:	Not Applicable	Oxidising Properties:	Not Available
Flammability:	Not flammable	Surface Tension [mN/m]:	Not Available
Upper Explosive Limit [%]:	Not Applicable	Volatile Component [%vol]:	Not Available
Lower Explosive Limit [%]:	Not Applicable	Gas Group:	Not Available
Vapour Pressure [kPa]:	End point is not relevant	VOC g/l:	Not Available
Solubility in water:	Readily Soluble in water		

Section 10: STABILITY AND REACTIVITY

Stability:	Product is stable under normal conditions of use, storage and temperature
Reactivity:	Dangerous reactions not expected under ambient and anticipated temperature and handling conditions
Hazardous Reactions:	No polymerisation will occur. Reacts in moist air to form ferric sulphate
Conditions to avoid:	High temperatures, moisture
Incompatible Materials:	Incompatible with alkalis, oxidising agents, soluble carbonates, gold and silver salts, lead acetate, lime water, potassium iodide, sodium tartrate, sodium borate tannin, vegetable astringent infusions and decoctions
Hazardous Decomposition Products	Sulphur oxides, oxides of iron

Section 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL 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:

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.		
Skin:	Causes irritation to skin. Symptoms include redness, itching and pain		
Eye:	Causes irritation to eyes with redness and pain.		
Chronic Effects:	Evidence indicates that repeated or prolonged exposure to this chemical could result in effects on the liver		
Acute Toxicity:	✓	Carcinogenic:	⊗
Skin Irritation/ Corrosion:	✓	Reproductive Effects:	⊗
Serious Eye Damage/Irritation:	✓	Specific Target Organ – SE:	⊗
Respiratory / Skin Sensitiser:	⊗	Specific Target Organ – RE:	⊗
Mutagenic:	⊗	Aspiration Hazard:	⊗

Legend:

⊗	Data not available to make classification
✓	Data Available to make classification
*	Data available but does not fill criteria for classification

TOXICOLOGICAL DATA:

Product	Toxicity	Irritation
Ferrous Sulphate	Dermal [Rat] LD50 >400 mg Fe/kg	Eye: Not Available
	Oral [Rat] LD50 132 to 881 mg Fe/kg	Skin: Not Available

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Avoid contaminating waterways

Bioaccumulation

ECOLOGICAL DATA:

Product	Endpoint	Duration [hr]	Species	Value	Source
Ferrous Sulphate	LC50	No Data Available	No Data Available	No Data Available	-
	EC50	No Data Available	No Data Available	No Data Available	

DEGRADABILITY

Product	Degradability Water/Soil
Ferrous Sulphate	No Data Available

BIOACCUMULATION

Product	Bioaccumulation
Ferrous Sulphate	No Data Available

Section 13: DISPOSAL INFORMATION

Disposal: Refer to local government authority for disposal recommendations. Dispose of contents/container in accordance with local/regional/national/international regulations. Empty containers must be either rendered totally unusable, or if to be recycled for use, decontaminated by rinsing thoroughly with water. Rinsing water needs to be disposed of carefully

The following controls should be considered:

- Reduction
- Reuse
- Recycle
- Disposal

Disposal of materials or packaging must be carried out in accordance with Hazardous Substances Regulations 2001

Section 14: TRANSPORT INFORMATION

LABELLING REQUIREMENTS

Label:	Not Required
Marine Pollutant:	No
Hazchem:	No Data Available

LAND TRANSPORT Not regulated for transport of Dangerous Goods [UN]

AIR TRANSPORT Not regulated for transport of Dangerous Goods [ICAO-IATA / DGR]

SEA TRANSPORT Not regulated for transport of Dangerous Goods [IMDG-Code / GGVSee]

Section 15: REGULATORY INFORMATION

REGULATIONS

HSR Number	Group Standard
HSR003420	Not Available

LOCATION TEST CERTIFICATE

Hazard Class	Closed Container Controls	Open Container Controls
Not Applicable	Not Applicable	Not Applicable

TRACKING REQUIREMENTS


Not applicable

Section 16: OTHER INFORMATION

This Safety Data Sheet was updated on the date shown at the bottom right of page, and supersedes all previous versions.

The data in this SDS relates only to the specific material designated herein and does not relate to use in combination with any other material. The information is provided in good faith based on current knowledge and experience. No warranty with regard to the product properties is expressed or implied.

CONTROL REGISTER

VERSION #	DATE OF RELEASE	ISSUED TO	APPROVED BY	AMMENDMENTS	NEXT REVIEW DUE
1	30/11/2017	Shared Drive	 Aaron Murray	New Format	November 2022

Product Name: **Ferrous Sulphate Monohydrate**
11/03/2020
Item Code: **R-F1175 – R-F1200**
30/11/2017

Print Date:

Issue Date:

Version:

1.0