


**Section 1: SUBSTANCE IDENTIFICATION AND SUPPLIER**

**Product Name:** Manganese Sulphate Monohydrate  
**Other Name[s]:** Manganese Sulphate Mono, Sulfuric acid, manganese (2+) salt (1:1) monohydrate  
**Proper Shipping Name:** Manganese Sulphate Monohydrate  
**Chemical Formula:** MnSO<sub>4</sub> H<sub>2</sub>O  
**Product Code:** R-M1200  
**CAS Number:** 232-089-9

**PRODUCT USE**

**Recommended Use:** Feed additives, fertilisers, intermediates, raw material in manganese compounds, catalyser of synthesizing fatty acid, raw material for pesticides

**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](mailto:info@imageholdings.co.nz)  
**Website:** [www.imageholdings.co.nz](http://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:** 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 Hazardous Substances & New Organisms Act 2015  
**Approval Number:** HSR004019  
**Classification Determined by using GHS/HSNO Criteria:**

- 6.1D:** Substances that are acutely toxic - Harmful
- 6.9A:** Substances that are toxic to human target organs or systems
- 9.1B:** Substances that are ecotoxic in the aquatic environment
- 9.3C:** Substances that are harmful to terrestrial vertebrates

**LABEL REQUIREMENTS**

**Signal Word:** DANGER



**Pictogram:**

**HAZARD STATEMENT[s]:**

- H302:** Harmful if swallowed.
- H372:** Causes damage to organs through prolonged or repeated exposure cause the hazard>.



**PRECAUTIONARY STATEMENT(S):**

- Prevention:**
- P102:** Keep out of reach of children.
  - P103:** Read label before use.
  - P260:** Do not breathe dust/fumes/gas/mist/vapours/spray.
  - P264:** Wash hands thoroughly after handling.
  - P270:** Do not eat, drink or smoke when using this product.
  - P273:** Avoid release to the environment.
- Response:**
- P330:** Rinse mouth.
  - P331:** Do NOT induce vomiting.
  - P391:** Collect spillage.
  - P301+312:** IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell.
- Disposal:**
- P501:** Dispose of contents/container *in accordance with local/regional/national/international regulation.*
- Other Hazards:** None Known

### Section 3: COMPOSITION INFORMATION

COMPONENT	CAS No.	PROPORTION	HAZARD CODES
Manganese Sulphate Monohydrate	10034-96-5	100%	6.1D, 6.9A, 9.1B, 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:**
- If Inhalation of product occurs:**
- 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.
  - **Urgently Seek medical help**
- Ingestion:**
- If ingestion occurs:**
- 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:**
- If skin contact occurs:**
- Remove all contaminated clothing immediately
  - Wash affected area thoroughly with water
  - **Seek immediate medical assistance if irritation occurs.**
- Eye:**
- If this product comes in contact with eyes:**
- 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:**
- 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

Product Name: **Manganese Sulphate Monohydrate**  
Reference: IHL-SDS174

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Version:





## SPECIFIC HAZARDS

**Hazards of Combustion:** Sulphur Oxides, Manganese Oxides

## 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:** Decomposition may produce toxic fumes of: Sulphur Oxides, Manganese Oxide
- Hazchem Code:** 2Z

## 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**
- Environmental Hazard – 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
  - Shut off all possible sources of ignition
- Major Spill**
- **Medium Hazard**
  - Environmental 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

**Certified Handler:** Not required  
**Tracking:** Not required  
**Record Keeping:** Not required



## STORAGE PRECAUTIONS

- Suitable Container:** ▪ **Store in manufacturers original packaging**
- 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:** ▪ Foodstuffs, Heat
- 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]	Manganese Sulphate Monohydrate	0.2 mg/m <sup>3</sup>		Dusts and compounds

## 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 chemical 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
  - Barrier cream
- Other Protection:**
- Eyewash Unit

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	<b>Solid</b>	<b>Vapour Density [Air=1]:</b>	n/a
<b>Physical State:</b>	<b>White to pale red granule / powder</b>	<b>Relative Density [Water=1]:</b>	n/a
<b>Odour:</b>	Odourless	<b>Auto Ignition Temp [°C]:</b>	n/a
<b>Odour Threshold:</b>	Not applicable	<b>Decomposition Temp:</b>	n/a
<b>pH [1% Solution]:</b>	3.0 – 3.5 [50g.l-1 in water 20°C]	<b>Specific Gravity:</b>	2.9
<b>Melting Point / Freezing Point:</b>	>400°C	<b>Molecular Weight [g/mol]:</b>	n/a
<b>Initial Boiling Point / Range:</b>	n/a	<b>Taste:</b>	n/a
<b>Flash Point [°C]:</b>	n/a	<b>Explosive Properties:</b>	n/a
<b>Evaporation Rate:</b>	n/a	<b>Oxidising Properties:</b>	n/a
<b>Flammability:</b>	n/a	<b>Surface Tension [mN/m]:</b>	n/a
<b>Upper Explosive Limit [%]:</b>	n/a	<b>Volatile Component [%vol]:</b>	n/a
<b>Lower Explosive Limit [%]:</b>	n/a	<b>Gas Group:</b>	n/a
<b>Vapour Pressure [kPa]:</b>	n/a	<b>VOC g/l:</b>	n/a
<b>Solubility in water [g/l]:</b>	Soluble		

Product Name: **Manganese Sulphate Monohydrate**  
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# Safety Data Sheet




**Section 10: STABILITY AND REACTIVITY**

<b>Stability:</b>	Product is stable under normal conditions of use, storage and temperature
<b>Reactivity:</b>	Hazardous Polymerisation is unlikely to occur
<b>Conditions to avoid:</b>	No specific conditions to avoid
<b>Incompatible Materials:</b>	Strong acids, strong oxidisers
<b>Hazardous Decomposition Products</b>	Sulphur oxides, Manganese Oxides

**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:

<b>Ingestion:</b>	Ingestion of large quantities. May lead to nausea, vomiting, diarrhoea, lethargy and possible coma.		
<b>Inhalation:</b>	Irritation. Elevated exposure may result in mucous membrane irritation (respiratory tract), sneezing and nosebleeds		
<b>Skin:</b>	Irritation. Absorption of manganese can lead to symptoms listed for ingestion		
<b>Eye:</b>	Irritation. Absorption of manganese can lead to symptoms listed for ingestion		
<b>Chronic Effects:</b>	Chronic exposure can lead to inflammation of the respiratory tract, nosebleeds, dermatitis, headache, lethargy, mental and central nervous system effects, damage to kidneys and lungs		
<b>Acute Toxicity:</b>	✓	<b>Carcinogenic:</b>	✗
<b>Skin Irritation/ Corrosion:</b>	✓	<b>Reproductive Effects:</b>	✗
<b>Serious Eye Damage/Irritation:</b>	✓	<b>Specific Target Organ – SE:</b>	✓
<b>Respiratory / Skin Sensitiser:</b>	✓	<b>Specific Target Organ – RE:</b>	✓
<b>Mutagenic:</b>	✓	<b>Aspiration Hazard:</b>	✗

<b>Legend:</b>	⊕ Data not available to make classification
	✓ Data Available to make classification
	✗ Data available but does not fill criteria for classification

**TOXICOLOGICAL DATA:** No LD50 data available for the product. However, Exposure Standard(s) for constituent(s):

Product	Toxicity	Irritation
Manganese Sulphate	Oral [Rat] LD50 2150 mg/kg	Not available

**Section 12: ECOLOGICAL INFORMATION**

<b>Ecotoxicity:</b>	Avoid contaminating waterways
<b>Bioaccumulation</b>	Unlikely to bio-accumulate
<b>ECOLOGICAL DATA:</b>	No LC50 data available for the product. However, Exposure Standard(s) for constituent(s):

**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:  
Marine Pollutant: **Yes**  
Hazchem: **2Z**

**LAND / AIR / SEA TRANSPORT** Regulated for transport of Dangerous Goods [UN]  
**UN Number:** 3077  
**Proper Shipping Name:** Environmentally Hazardous Substance, Solid, N.O.S. [Contains Manganese Sulphate Monohydrate]  
**DG Class:** 9  
**Subsidiary Class:** n/a  
**Packing Group:** III  
**Environmental Hazard:** Yes  
**Other Information:** Not available

## Section 15: REGULATORY INFORMATION

### REGULATIONS

HSR Number	Group Standard
HSR004019	Not available

### LOCATION TEST CERTIFICATE

Hazard Class	Closed Container Controls	Open Container Controls
Not required	Not required	Not required

### 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.