

Safety Data Sheet

Manganese Sulphate - Organic



1. Identification of the substance/mixture and supplier

Product Name:	Manganese Sulphate – Organic (Manganese Sulphate Monohydrate)
Other names	Manganese Sulphate Monohydrate, Manganous Sulfate Monohydrate, Manganese Mesosulfate.
Recommended Uses	Fertilizers, feed additive, paints and varnishes, ceramics, textile dyes, medicines, fungicides, ore flotation, catalyst in viscose process, synthetic manganese dioxide, nutrient and/or dietary supply food additive and as a tracer mineral added to animal feeds, for dyeing, for red glazes on porcelain, boiling oils for varnishes, in fertilisers for vines, and in tobacco also pharmaceutical applications.
Supplier	Hortigro Ltd
Street address	164 Manukau Road, Pukekohe 2010
Telephone Number	09 237 1777
Facsimile	09 237 1778
Emergency Telephone	0800 CHEMCALL (24 hours) 0800 243 622

2. Hazards Identification

Dangerous Goods	Classified as a Dangerous Good according to NZS 5433:2007 Transport of Dangerous Goods on Land
Hazardous Goods	Classified as hazardous according to criteria in the HS (Minimum Degrees of Hazard) Regulations 2001.
Risk Phrases:	R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. R51/53 Toxic to aquatic organisms: may cause long term adverse effects in the aquatic environment.
Safety Phrases	S9 Keep container in a well-ventilated place. S13 Keep away from food, drink and animal feeding stuffs. S22 Do not breathe dust. S27 Take off immediately all contaminated clothing. S36/37/39 Wear suitable protective clothing, gloves and eye/face protection. S40: MANSUL To clean the floor and all objects contaminated by this material, use water. S46 If swallowed, seek medical advice immediately and show the container or label S51 Use only in well ventilated areas.

- S61** Avoid release to the environment. Refer to special instruction/Material Safety Data Sheets.
- S60** This material and its container must be disposed of as hazardous waste.

ERMA New Zealand
Approval Code: **HSR004019**

HSNO Classifications 6.1D (acutely toxic)
6.9A (toxic to human target organs or systems.)
9.1B (ecotoxic to the aquatic environment)
9.3C (harmful to terrestrial vertebrates)

This Material Safety Data Sheet may not provide exhaustive guidance for all HSNO controls assigned to this substance. The ERMA Web Site should be consulted for a full list of triggered controls and cited regulations.

3. Composition/Information on Ingredients

Contents	CAS Number	Proportion
Manganese Sulphate	10034-96-5	100%

4. First Aid Measures

For advice, contact National Poisons Information Centre (Phone 0800 764 766) or a doctor
Have product container or label at hand.

- Swallowed** Rinse mouth with water. Give water to drink provided victim is conscious. DO NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head down position if possible) to maintain open airway and prevent aspiration. Seek medical attention.
- Eye Contact** Immediately flush eyes with water for at least 15 minutes while holding eyelids open. In all cases of eye contamination, it is a sensible precaution to seek medical advice.
- Skin Contact** Immediately remove all contaminated clothing and shoes. Flush skin and hair with running water (and soap if available). Seek medical attention in the event of irritation.
- Inhaled** Remove victim from exposure to fresh air. Prosthesis such as false teeth, which may block airway, should be removed where possible, prior to initiating first aid procedures. If not breathing, apply artificial respiration. If breathing is difficult, have qualified person give oxygen preferably with a demand valve resuscitator, bag valve mask device, or pocket mask as trained. Seek medical attention.
- Advice to Doctor** Treat symptomatically based on individual reactions of Patient and judgement of doctor. Both dermal and oral toxicity of manganese salts is low because of limited solubility of manganese. No known permanent pulmonary sequelae develop after acute manganese exposure. Treatment is supportive [Ellenhorn and Barceloux: Medical Toxicology] In clinical trials with miners exposed to manganese-containing dusts, L-dopa relieved extrapyramidal symptoms of both hypo kinetic and dystonic patients

5. Fire-fighting Measures

Specific Hazard	Non –combustible material
Suitable Extinguishing Media	This product is non-combustible, however if material is involved in fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder)
Fire-fighting advice	Decomposes on heating emitting toxic fumes, including those of sulphur. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk to exposure to products of decomposition.
Hazchem Code	2Z

6. Accidental Release Measures

Emergency Procedures: Personnel involved in the clean-up should wear full protective clothing. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Avoid contaminating waterways, drains, and sewers. If the product does enter a waterway, advise the Environmental Protection Authority or your local Waste Management. Use spark-proof tools and equipment. Environmental hazard – contain spillage. Slippery when spilt.

Methods and Materials for Containment and Clean Up: Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Water may be used to prevent dusting. Transfer to a suitable, labelled container and dispose of promptly as hazardous waste. Always wash area down with large amounts of water and prevent runoff into drains. If contamination of drains or waterways occurs, advise Emergency Services.

7. Handling and Storage

Handling advice Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product dust/fumes. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. Do NOT enter confined spaces until atmosphere has been checked.

Storage advice 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. Protect from direct sunlight, moisture, foods and feed stuffs. Product is hygroscopic. Do NOT allow material to contact humans, exposed food or food utensils.

Manganese dust and compound as Mn: WES-TWA 1 mg/m³

As published by the New Zealand Occupational Safety and Health Service (OSH)

WES – TWA (Workplace Exposure Standard – Time Weighted Average) – The eight hour time-weighted average exposure standard is designed to protect the worker from the effects of long term exposure.

These 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 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.

Engineering Controls:

Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Avoid generating and breathing in dusts. Use with local exhaust ventilation or while wearing dust mask. Keep containers closed when not in use.

Personal Protective Equipment;

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.

OVERALLS, SAFETY SHOES, SAFETY GLASSES, GLOVES, DUST MASK.

Wear overalls, safety glasses and impervious gloves. Avoid generating and inhaling dusts. If excessive dust exists, wear dust mask/respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

8. Exposure Controls/Personal Protection

Workplace Exposure Guidelines

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9. Physical and Chemical properties

Appearance	Grey/Pale Pink Powder or Crystals
Odour	Odourless
Solubility	Soluble in water
Specific Gravity	2.95
Flash Point (°C)	Not applicable
pH	7.7
Melting Point	ca. 700
Boiling Point	850 (decomposes)
Vapour Pressure	Not applicable

10. Stability and Reactivity

Stability	Product is stable under normal conditions of use and storage. Avoid exposure to heat. Avoid dust generation. ..
Reactivity	Incompatible with strong acids. Oxides of sulphur. Oxides of manganese.
Hazardous reactions:	Hazardous polymerisation will not occur.

11. Toxicological information

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:

Swallowed	Harmful: Danger of serious damage to health of the individual. Swallowing may result in nausea, vomiting, diarrhoea and abdominal pain. A side effect of oral magnesium administration is an increase in losses of calcium in the faeces and subsequent lowering of calcium blood levels. Poisonings rarely occur after oral administration of manganese salts because they are poorly absorbed from the gut.
Eye Contact	Eye contact may result in irritation with transient discomfort characterised by tearing, or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals
Skin Contact	May cause skin irritation. Low hazard for usual industrial handling. Entry into the blood stream, through for example, cuts, abrasions or lisions, may produce systemic injury with harmful effects. Examine skin prior to use and ensure and external damage is suitably protected.
Inhaled	Harmful: Inhalation of dusts generated by the material during the course of normal handling, may be damaging to the health of the individual. May be irritating to the mucous membranes of the upper respiratory tract (airways). Manganese fume is toxic. Produced nervous system effects characterised by tiredness. Acute inflammation of the lungs may occur. Chemical pneumonia may also

result from frequent exposure. May result in "metal fume fever". Symptoms may be delayed for up to 12 hours and begin with sudden onset of thirst, a sweet metallic, or foul taste in the mouth. Other symptoms include upper respiratory tract irritation, coughing, dryness of the mucous membranes, lassitude and general feeling of malaise.

Toxicological Data Oral LD₅₀ (rat): 2150 mg/kg (1)
Oral LD₅₀ (mice): 2330 mg/kg (1)

12. Ecotoxicological information

Ecotoxicity: Avoid contaminating waterways.

Aquatic Toxicity: Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

13. Disposal

Disposal Methods: Refer to Waste Management Authority. Dispose of material through a licensed waste contractor.

14. Transport information

Road and Rail Transport

Classified as a Dangerous Good according to NZS 5433:1999 Transport of Dangerous Goods on Land.

UN No	3077
Class-primary	9
Packing Group	III
Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S (Manganese Sulphate Monohydrate)
Hazchem Code	2Z

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN No	3077
Class-primary	9
Packing Group	III
Proper Shipping Name	Environmentally hazardous substance, solid, N.O.S (Manganese Sulphate Monohydrate)
Hazchem Code	2Z

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

UN No	3077
Class-primary	9
Packing Group	III

Proper Shipping Name Environmentally hazardous substance, solid, N.O.S
(Manganese Sulphate Monohydrate))
Hazchem Code 2Z

15. Regulatory Information

**ERMA New Zealand
Approval Code:** HSR004019

HSNO Classifications 6.1D (acutely toxic)
6.9A (toxic to human target organs or systems.)
9.1B (ecotoxic to the aquatic environment)
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16. Other Information

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES.

The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use. This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.