

MATERIAL SAFETY DATA SHEET

PRODUCT: ZINC & MANGANESE

Date of Issue: 1 DEC 2016

Valid until: 1 DEC 2021

GHS Format

1. IDENTIFICATION OF MATERIAL & SUPPLIER

Product (material) Name: ZINC & MANGANESE

Other names: none

Manufacturer's code: MTO0512B/MTO0512

Recommended use: as a trace element fertiliser to correct Zinc & Manganese deficiencies in plants

Manufacturer/Supplier Information:

Name: MANUTEC PTY LTD

Address: 30 Jonal drive, Cavan, South Australia 5094

Telephone No:+61-8-8260 2277 **Fax:**+61-8-8260 2399

Email: manutec@manutec.com.au

Emergency contact only: Poisons Information Centre (Australia) 131126

2. HAZARDS IDENTIFICATION

Poisons Schedule (Aust) 6

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 1

Acute Hazard To The Aquatic Environment - Category 1

Pictograms:



Signal Word: Danger

Hazard Statements:

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

Precautionary Statements:

Prevention	<p>P270 Do not eat, drink or smoke when using this product.</p> <p>P264 Wash exposed skin thoroughly after handling.</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p>
Response	<p>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER or doctor/physician.</p> <p>P330 Rinse mouth.</p> <p>P391 Collect spillage.</p>
Disposal	<p>P501 Dispose of contents/container in accordance with local / regional / national /international regulations.</p>

National Transport Commission (Australia)

Dangerous Goods Classification

NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Entity	CAS Number	Proportion
Zinc Sulphate Monohydrate	7446-19-7	50.00 %
Manganese Sulphate Monohydrate	10034-96-5	50.00 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. Give plenty of water to drink provided victim is conscious. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Seek medical attention.
Eye	Immediately flush eyes with plenty of water for 15 minutes, holding eyelids open. In all cases of eye contamination, it is a sensible precaution to seek medical advice.
Skin	If skin contact occurs, remove any contaminated clothing and shoes and wash skin with plenty of soap and water. Seek medical attention. Wash clothing before reuse.
Inhaled	Remove victim from exposure to fresh air. If not breathing, apply

artificial respiration. If breathing is difficult, give oxygen.
Keep person warm and calm. Seek medical attention.

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 No Data Available

Extinguishing Media In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions. Suitable media may include water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Fire and Explosion Hazard Non-combustible Solid.

Hazardous Products of Combustion

May release toxic and hazardous oxides of zinc and sulphur when involved in a fire.

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).

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

Avoid accidents, clean up immediately. Eliminate all sources of ignition. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Use clean, non-sparking tools and equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. 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. 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

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. Avoid handling which leads to dust formation. In common with many organic chemicals, may form flammable dust clouds in air. Do not inhale product dust/fumes. Use only in a chemical fume hood.

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. Hygroscopic. Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

General

No exposure standard has been established for this product by the Australian Safety and Compensation Council (ASCC). However, the exposure standard for dust not otherwise specified is 10mg/m³ (for inspirable dust) and 3mg/m³ (for respirable dust).

NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when

calculated over a normal 8 hour working day for a 5 day working week.

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.

Exposure Limits

No Data Available

Biological Limits

No information available on biological limits for this product

Personal Protection Equipment RESPIRATOR:

Where risk assessment shows air-purifying respirators are appropriate use a full-face Particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards (AS1715/1716).

EYES: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards (AS1336/1337).

HANDS: Handle with gloves. Gloves must be inspected prior to use (AS2161).

CLOTHING: Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace (AS3765/2210).

Work Hygienic Practices Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Odour	No Data Available
Colour	White
pH	4.5%
Vapour Pressure	No Data Available
Relative Vapour Density	0
Boiling Point	No Data Available
Freezing Point	No Data Available
Solubility	30% at 20°C
Specific Gravity	2500kg/m ³
Flash Point	No Data Available
Melting Point	238°C
Appearance	Powder or Granules
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	>500°C
Density	2.5 Relative
Specific Heat	No Data Available
Molecular Weight	179.47g/mol

10. STABILITY AND REACTIVITY

Chemical Stability Product is stable under normal conditions of use, storage and temperature.

Conditions to Avoid Avoid moisture.

Materials to Avoid Strong oxidizing agents.

Hazardous Decomposition Products

May release toxic and hazardous oxides of zinc and sulphur when involved in a fire.

Hazardous Polymerisation Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Eye Irritant Risk of serious eye damage. Can cause corrosion of the eye tissue, visual disturbances.

Ingestion	Harmful if swallowed. Can cause gastrointestinal complaints, nausea, vomiting, abdominal complaints, blood in stool, decreased renal function, change in haemogramme/blood composition, weakening of the immune system.
Inhalation	Zinc oxide dust or fume can irritate the respiratory tract. Exposure to high levels of dust or fume can cause metallic taste, marked thirst, coughing, fatigue, weakness, muscular pain, and nausea followed by fever and chills. Severe overexposure may result in bronchitis or pneumonia with a bluish tint to the skin.
Skin Irritant	May cause skin irritation. Prolonged skin contact can produce a severe dermatitis called oxide pox.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	Very toxic to aquatic organisms; may cause long term adverse effects in the aquatic environment. EC50 Daphnia - 0.56mg/l (EC50: 48h) LC50 Fish - 2.4mg/l (LC50 : 96h) Threshold limit algar - .05 - .36 EC50 : 72h
Persistence/Degradability	No information available on persistence/degradability for this product.
Mobility	No information available on mobility for this product.
Environmental Fate	Do NOT let product reach waterways, drains and sewers.
Bioaccumulation Potential	Bioaccumable.
Environmental Impact	No Data Available

13. DISPOSABLE 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. Dispose of as unused product.

14. TRANSPORT INFORMATION

Land Transport (Australia)

Proper Shipping Name	No data Available
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	SPAU01

National Transport Commission (Australia)

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Dangerous Goods Classification



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15. REGULATORY INFORMATION

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16. OTHER INFORMATION

The MSDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

STATEMENT OF DISCLAIMER:

This Material Safety Data Sheet has been developed according to WHS Code of Practice Preparation of Safety Data Sheets for Hazardous Chemicals Guidelines and written in accordance with GHS format.

All information is as accurate and up-to-date as possible. Since Manutec Pty Ltd cannot anticipate or control the conditions under which this information may be used, each user should review the information in the specific context of the intended application. Manutec Pty Ltd will not be responsible for damages of any nature resulting from use of or reliance upon this information.

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