MATERIAL SAFETY DATA SHEET

PRODUCT: TRACE ELEMENTS

Date of Issue: 1 DEC 2016   Valid until: 1 DEC 2021   GHS Format

1. IDENTIFICATION OF MATERIAL & SUPPLIER

Product (material) Name: Manutec Trace Elements mix - soluble
Other names: None
Manufacturer’s code: MTO5006/MTO5006B/MTO2506
Recommended use: as a trace element fertiliser to correct number of trace elements deficiencies.

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: None Scheduled

Hazard Classification:
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
- Skin Corrosion/Irritation - Category 2
- Serious Eye Damage/Irritation - Category 2A

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.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection as appropriate depending on volume of handling.

Response
- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- P330 Rinse mouth.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P332 + P313 If skin irritation occurs: Get medical advice/attention.
- P363 Wash contaminated clothing before reuse.
- P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 If eye irritation persists: Get medical advice/attention.

Disposal
- P501 Dispose of contents/container in accordance with local / regional / national /international regulations.

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

<table>
<thead>
<tr>
<th>Chemical Entity</th>
<th>CAS Number</th>
<th>Proportion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium Carbonate</td>
<td>471-34-1</td>
<td>&lt;=30%</td>
</tr>
<tr>
<td>Magnesium Sulphate</td>
<td>10034-99-8</td>
<td>&lt;=30%</td>
</tr>
<tr>
<td>Iron Chelate</td>
<td>15708-41-5</td>
<td>&lt;=10%</td>
</tr>
<tr>
<td>Iron Sulphate</td>
<td>7782-63-0</td>
<td>&lt;=8%</td>
</tr>
<tr>
<td>Manganese Sulphate</td>
<td>7785-87-7</td>
<td>&lt;=10%</td>
</tr>
<tr>
<td>Zinc Sulphate</td>
<td>7733-02-0</td>
<td>&lt;=5%</td>
</tr>
<tr>
<td>Copper Sulphate</td>
<td>7758-99-8</td>
<td>&lt;=5%</td>
</tr>
<tr>
<td>Sodium Borate</td>
<td>1303-96-4</td>
<td>&lt;=0.8%</td>
</tr>
<tr>
<td>Sodium Molybdate</td>
<td>10102-40-6</td>
<td>&lt;=0.1%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed
Do not induce vomiting. Give 1-2 glasses of water to a conscious victim. Never give anything by mouth to an unconscious victim. Get medical attention
Eye  Immediately flush eyes with running water for at least 20 minutes holding eyelids open. Get medical attention.

Skin  Immediately wash with plenty of soap and water. Get medical attention if irritation occurs.

Inhaled  Move victim to fresh air. If not breathing, give artificial respiration. Get medical attention.

Advice to Doctor  Treat symptomatically based on individual reactions of patient and judgement of doctor.

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  Water, dry powder, foam, carbon dioxide.

Hazardous Products of Combustion  Heating to dryness will produce obnoxious and toxic fumes.

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. Increase ventilation. Avoid generating dust. Stop leak if safe to do so. Isolate the danger area. Use clean, non-sparking tools and equipment.

Clean Up Procedures  Use Gloves and protective gear as per section 8 and shovel into suitable container for disposal.

Decontamination  Rinse affected area with plenty of water.
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.

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.

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. This product is not classified dangerous for transport according to The Australian Code for the Transport of Dangerous Goods By Road and Rail.

Container
Store in original packaging as approved by manufacturer

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Exposure Limits
No Data Available

Biological Limits
No information available on biological limit values for this product.

Personal Protection Equipment
RESPIRATOR: wear an effective dust mask where dusts/vapours are generated
EYES: Safety glasses as necessary (AS1336/1337).
HANDS: Wear rubber or plastic gloves while handling (AS2161).
CLOTHING: When handling large quantities and in a factory production atmosphere, use Long-sleeved protective clothing and safety footwear (AS3765/2210).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State
Solid
Appearance
Crystalline Powder
pH
6 - 8
Vapour Pressure
No Data Available
Relative Vapour Density
No Data Available
Boiling Point
No Data Available
Melting Point
No Data Available
Freezing Point
No Data Available
Solubility
soluble in water
Specific Gravity: No Data Available
Flash Point: No Data Available
Auto Ignition Temp: No Data Available
Evaporation Rate: No Data Available
Bulk Density: No Data Available

10. STABILITY AND REACTIVITY

**General Information**
Product is a non-flammable solid.

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

**Conditions to Avoid**
Avoid excessive heat, generating dust, direct sunlight, moisture and high temperatures.

**Materials to Avoid**
Incompatible with strong oxidising agents, bases, mineral acids and sources of ignition.

**Hazardous Decomposition Product**
Not been reported/assessed

**Hazardous Polymerisation**
Hazardous Polymerisation has not been reported.

11. TOXICOLOGICAL INFORMATION

**Eye Irritant**
Eye irritation may result.

**Ingestion**
Swallowing can result in nausea, vomiting, diarrhoea, and gastrointestinal irritation. Ingestion of large quantities can be dangerous and harmful, no sufficient data available.

**General Information**

**Acute toxicity**
TDLo (man, oral): 183 mg/kg/4h-l
LDLo (mouse, oral): 5000 mg/kg bw

**Skin:**
Not sensitizing

**Carcinogen Category**
No Data Available

12. ECOLOGICAL INFORMATION

**Ecotoxicity**
No Data Available

**Persistence/Degradability**
Not biodegradable.

**Mobility**
miscible in water.

**Environmental Fate**
Do NOT allow product to reach waterways, drains and sewers.

**Bioaccumulation Potential**
No information available on bioaccumulation for this product.

**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.
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: No Data Available

National Transport Commission (Australia)
Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

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)

15. REGULATORY INFORMATION

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

National/Regional Inventories
Australia (AICS): Not Listed

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 DISCLAIM:

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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