

1 Identification

Product Name: TITAN MANGANESE SULPHATE MONOHYDRATE

Other Means of Identification: Inorganic salt

Recommended Use of the Chemical and Restriction on Use: Agricultural fertiliser

Details of Manufacturer or Importer:

Titan Ag Pty Ltd
Suite 15 / 16 Princes Street
Newport NSW 2106

Phone Number: 02 9999 6655

Emergency telephone number: 02 9999 6655

2 Hazard(s) Identification

Hazardous Nature:

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)



health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

Aquatic Acute 2 H401 Toxic to aquatic life.

Signal Word Warning

Hazard Statements

H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P273 Avoid release to the environment.

P314 Get medical advice/attention if you feel unwell.

P391 Collect spillage.

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

3 Composition and Information on Ingredients

Chemical Characterisation: Substances

CAS No. Description

10034-99-8 Sulfuric acid, magnesium salt, heptahydrate

4 First Aid Measures

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Seek medical attention if breathing problems develop.

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Skin Contact:

In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap. Seek medical attention if symptoms occur.

Eye Contact:

In case of eye contact, rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if symptoms occur.

Ingestion:

If swallowed, do not induce vomiting. Wash mouth with water and give some water to drink. Do not give anything by mouth to an unconscious person. Seek medical attention if symptoms occur.

Information for 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. In clinical trials with miners exposed to manganese-containing dusts, L-dopa relieved extrapyramidal symptoms of both hypo kinetic and dystonic patients. For short periods of time symptoms could also be controlled with scopolamine and amphetamine. BAL and calcium EDTA prove ineffective.

Symptoms Caused by Exposure:

Inhalation: Inhalation of dusts, or fumes may cause respiratory discomfort.

Skin Contact: Entry into the blood-stream, through skin cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Eye Contact: May cause mild, transient eye irritation, redness and tearing.

Ingestion: Poisonings rarely occur after oral administration of manganese salts because they are poorly absorbed from the gut. Sulfates can cause diarrhoea.

5 Fire Fighting Measures

Suitable Extinguishing Media: Water spray, dry chemical, foam and carbon dioxide.

Specific Hazards Arising from the Chemical:

Decomposition products include obnoxious and toxic fumes of sulphur and metal oxides. Product is a non-combustible solid.

Special Protective Equipment and Precautions for Fire Fighters:

When fighting a major fire wear self-contained breathing apparatus and protective equipment.

6 Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures:

Wear Safe Work Australia approved dust mask P1 and full protective clothing. Evacuate all non-essential personnel from affected area. Do not breathe dust. Ensure adequate ventilation. Avoid generating dust.

Environmental Precautions:

In the event of a major spill, prevent spillage from entering drains or water courses.

Methods and Materials for Containment and Cleaning Up:

Stop leak if safe to do so and sweep powder into a pile and shovel into drums for subsequent disposal. Avoid generating dust. Provide adequate ventilation. Consider vacuuming if appropriate. Wash area down with large amounts of water and prevent runoff into drains.

7 Handling and Storage

Precautions for Safe Handling:

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Use of safe work practices are recommended to avoid eye or skin contact and inhalation of dust. Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close proximity to points of potential exposure.

Conditions for Safe Storage:

Store in a cool, dry and well ventilated area. Keep container dry and tightly closed when not in use. Inspect regularly for damage or leaks. Keep away from peroxides, borohydrides or cyanoborohydrides, metals and their oxides or salts.

8 Exposure Controls and Personal Protection

Exposure Standards:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

| | |
|---|-----------------------------------|
| 10101-68-5 Manganese sulfate, tetrahydrate | |
| NES | TWA: 1 mg/m ³ as Mn |

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below occupational exposure standards.

Respiratory Protection:

Use a Safe Work Australia approved dust mask P1 under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of dust, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:

Elbow-length PVC gloves, cotton overall buttoned to the neck and wrist, safety boots and a washable hat. See Australian Standards AS/NZS 2161, 2210.1 and 2210.2 for more information.

Eye and Face Protection:

Eye and face protectors for protection against dust. See Australian/New Zealand Standard AS/NZS 1337 for more information.

9 Physical and Chemical Properties

Appearance:

| | |
|---|---------------------------|
| Form: | Powdered solid. |
| Colour: | Pale pink |
| Odour: | Odourless |
| Odour Threshold: | Odourless |
| pH-Value: | No information available |
| Melting point/freezing point: | 700 °C |
| Initial Boiling Point/Boiling Range: | No information available |
| Flash Point: | Not applicable |
| Flammability: | Product is not flammable. |
| Auto-ignition Temperature: | Not applicable |
| Decomposition Temperature: | 85 °C |
| Explosion Limits: | |
| Lower: | Not applicable |
| Upper: | Not applicable |
| Vapour Pressure: | Not applicable |

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| | |
|-----------------------------------|--------------------------|
| Density: | Not determined. |
| Relative Density at 20 °C: | 3.25 g/cm ³ |
| Vapour Density: | No information available |
| Evaporation Rate: | Not applicable |
| Solubility in Water: | Miscible |
| Viscosity: | Not applicable |

10 Stability and Reactivity

Possibility of Hazardous Reactions: Hazardous polymerisation will not occur.

Chemical Stability: Stable at ambient temperature and under normal conditions of use.

Conditions to Avoid: No information available

Incompatible Materials: Peroxides, borohydrides or cyanoborohydrides, metals and their oxides or salts.

Hazardous Decomposition Products:

Decomposition products include obnoxious and toxic fumes of sulphur and metal oxides.

11 Toxicological Information

Toxicity:

Acute Health Effects

Inhalation: Inhalation of dusts, or fumes may cause respiratory discomfort.

Skin:

Entry into the blood-stream, through skin cuts, abrasions or lesions, may produce systemic injury with harmful effects.

Eye: May cause mild, transient eye irritation, redness and tearing.

Ingestion:

Poisonings rarely occur after oral administration of manganese salts because they are poorly absorbed from the gut. Sulfates can cause diarrhoea.

Skin Corrosion / Irritation: Based on classification principles, the classification criteria are not met.

Serious Eye Damage / Irritation: Based on classification principles, the classification criteria are not met.

Respiratory or Skin Sensitisation: Based on classification principles, the classification criteria are not met.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity: This product does NOT contain any IARC listed chemicals.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Single Exposure:

Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Based on classification principles, the classification criteria are not met.

Chronic Health Effects:

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Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

Long term exposure to high dust concentrations may cause changes in lung function (pneumoconiosis), caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness. Lung shadows show on X-ray.

Chronic exposure to low levels of manganese can include a mask-like facial expression, spastic gait, tremors, slurred speech, disordered muscle tone, fatigue, anorexia, loss of strength and energy, apathy and poor concentration.

Existing Conditions Aggravated by Exposure:

Impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis.

Additional toxicological information:

Manganese fumes are toxic and produce nervous system effects characterised by tiredness. Acute poisoning is rare although acute inflammation of the lungs may occur. A chemical pneumonia may also result from frequent exposure. Inhalation of freshly formed metal oxide particles sized below 1.5 microns and generally between 0.02 to 0.05 microns may result in "metal fume fever". Symptoms may be delayed for up to 12 hours and begin with the sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalised feeling of malaise. Mild to severe headache, nausea, occasional vomiting, fever or chills, exaggerated mental activity, profuse sweating, diarrhoea, excessive urination and prostration may also occur. Tolerance to the fumes develops rapidly, but is quickly lost. All symptoms usually subside within 24-36 hours following removal from exposure.

12 Ecological Information

Ecotoxicity: Ecotoxicity believed to be low.

Aquatic toxicity:

Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Persistence and Degradability: Not biodegradable.

Bioaccumulative Potential: No information available

Mobility in Soil: No information available

Other adverse effects: No information available

13 Disposal Considerations

Disposal Methods and Containers: Dispose according to applicable local and state government regulations.

Special Precautions for Landfill or Incineration:

Please consult your state Land Waste Management Authority for more information.

14 Transport Information

UN Number Not regulated

Proper Shipping Name Not regulated

Dangerous Goods Class Not regulated

Packing Group: Not regulated

15 Regulatory Information

Australian Inventory of Chemical Substances:

| | |
|------------|---------------------------------|
| 10101-68-5 | Manganese sulfate, tetrahydrate |
|------------|---------------------------------|

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Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:
Not a scheduled poison.

16 Other Information

Date of Preparation or Last Revision: 12.12.2017**Prepared by:** MSDS.COM.AU Pty Ltdwww.msds.com.au**Abbreviations and acronyms:**

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)

IARC: International Agency for Research on Cancer

STEL: Short Term Exposure Limit

TWA: Time Weighted Average

NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 2: Hazardous to the aquatic environment, short-term (Acute). Category 2

Aquatic Chronic 2: Hazardous to the aquatic environment, long-term (Chronic). Category 2

Disclaimer

This SDS is prepared in accord with the Safe Work Australia document "Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - February 2016"

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