

MATERIAL SAFETY DATA SHEET

Manganese Sulphate

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Hazardous according to criteria of Worksafe Australia

Date of Issue : Oct 1997

1. IDENTIFICATION

General

Product Name : MANGANESE SULPHATE

Other Names : MANGANESE SULPHATE MANGANOUS(II) SULPHATE, HYDRATE

UN No. : N/A

Dangerous Goods Class : None Allocated

Subsidiary Risk : None Allocated

Hazchem Code : N/A

Pack Group : 0

EPG : N/A

Poisons Schedule : N/A

Uses :

Fertilisers, feed additive, paints and varnishes, ceramics, textile dyes, medicines, fungicides, ore flotation, catalyst in viscose

process, synthetic manganese dioxide.

1.1 Physical Description / Properties

Appearance : Grey/pink crystalline powder

Formula : $MnSO_4 \cdot H_2O$

Boiling Point : DEC deg C

Melting Point : 700 deg C

Vapour Pressure : N/A

Specific Gravity : N/A (water = 1)

Flash Point : N/A

pH : N/A ()

Solubility in water : Sol g/l (25 deg C)

Flammability Limits (as percentage volume in air)

Lower Explosion Limit : N/A

Upper Explosion Limit : N/A

1.2 Other Properties

Soluble in water, insoluble in alcohol. Decomposes at 850 deg C. Material loses all water at 400 - 450 deg C.

1.3 Ingredients

Chemical Entity CAS No. Proportions (%)

MANGANESE SULPHATE [7785-87-7] > 74

WATER [7732-18-5] < 26

2. HEALTH HAZARD INFORMATION

2.1 Health Effects - Acute

Swallowed

May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Eye

May cause mild eye irritation.

Skin

May cause skin irritation. Low hazard for usual industrial handling.

Inhaled

May cause respiratory tract irritation.

2.2 Health Effects - Chronic

Chronic inhalation or ingestion may result in nonspecific neurological symptoms of headache, apathy, and weakness of legs,

followed by psychosis, and finally appearing with neurological symptoms similar to those of Parkinson's disease. In its acute

form, manganese poisoning has an effect characteristic of other heavy metals, leading to "metal fume fever" if dust or fume is

inhaled in sufficient quantity. An airborne concentration thought to be immediately dangerous to life or health is in the order of

10,000 mg/m³ (as Manganese).

2.3 First Aid

Swallowed

If victim is conscious and alert give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Seek medical attention.

Eye

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Seek medical attention.

Skin

Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Seek medical

attention if irritation develops or persists.

Inhaled

Remove from exposure to fresh air immediately - avoid becoming casualty. If not breathing, give artificial

respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.

First Aid Facilities

Ensure an eye bath and safety shower are available and ready for use.

2.5 Advice to Doctor

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

2.6 Toxicity Data

Oral LD50 = not available Dermal LD50 = not available Inhalation LC50 = not available

3. PRECAUTIONS FOR USE

3.1 Exposure Standards

Long-term exposure at or below 0.5 to 1 mg/m³ should afford protection for those individuals who may be susceptible to the neurological effects of prolonged exposure to manganese. Accordingly, the Exposure Standards Working Group recommends an eight-hour TWA exposure standard of 1 mg/m³ for manganese and inorganic compounds. Although there is acknowledgement that the particle size distribution, type of manganese compound & oxidation state may play an important role in the development of both the neurological and respiratory effects of manganese, there is insufficient evidence to distinguish confidently between manganese fume, dust and other inorganic manganese compounds. For this reason it is recommended that a single exposure standard be applied for all inorganic manganese compounds, measured as respirable dust (as Mn). Provided that the 8-hour TWA exposure standard is not exceeded, short-term exposures should not exceed 3 times the TWA exposure standard for more than a total of 30 minutes per 8-hour working day; and under no circumstances should the short-term value exceed 5 times the exposure standard (the general excursion limit approach).

3.2 Engineering Controls

Provide adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

3.3 Personal Protection

Wear appropriate protective eyeglasses or chemical safety goggles, gloves and adequate protective clothing to minimise skin exposure. In dusty conditions wear a dust mask or air-supplied breathing apparatus depending on levels of dust. Wash hands and

face thoroughly after handling and before eating, drinking smoking or using toilet facilities.

3.4 Flammability

Material is non-flammable.

SAFE HANDLING INFORMATION

4.1 Storage / Transport

Store in a tightly closed container in a cool, dry place, away from heat and direct sunlight. No special transport requirements necessary.

4.2 Packaging / Labelling

UN No. N/A

Class None Allocated

Sub Risk None Allocated

Hazchem Code N/A

Pack Group 0

EPG No. N/A

Shipping Name MANGANESE SULPHATE, MONOHYDRATE

Hazard HARMFUL

Risk Phrases

Safety Phrases

S24/25 Avoid contact with skin and eyes.

4.3 Spills and Disposal

Spills

Clean up personnel should wear protective clothing including breathing apparatus in dusty conditions. Avoid generating dust.

Vacuum or sweep up material and place in suitable containers. Hold for reuse or disposal. Wash spill site with soapy water after initial pickup is complete.

Disposal

Dispose of in accordance with all Local, State and Federal regulations at an approved waste disposal facility.

4.4 FIRE AND EXPLOSION HAZARD

Fire / Explosion

Material will not burn or explode. Stable under normal conditions of use. Manganese sulphate can react with strong acids, strong

oxidising agents and powdered metals. May react violently with hydrogen peroxide. Hazardous decomposition products include

carbon dioxide, sulphur oxides (SO_x), including sulphur oxide and sulphur dioxide, oxides of manganese. Hazardous polymerisation has not been reported.

Extinguishing Media

Fire-fighters should wear full protective clothing including self-contained breathing apparatus. Use water spray, dry chemical,

carbon dioxide or chemical foam type extinguishers. Use equipment/media appropriate to surrounding fire conditions.

5 OTHER INFORMATION

Other Information

No data available

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