

Mallinckrodt

Material Safety Data

Emergency Phone Number: 314-982-5000

MANGANESE SULFATE

PRODUCT IDENTIFICATION:

Synonyms: Manganous sulfate, hydrate; sulfuric acid, manganese (2+) salt (1:1), monohydrate

Formula CAS No.: 10034-96-5

TSCA CAS No.: 7785-87-7

Molecular Weight: 169.01

Chemical Formula: $\text{MnSO}_4 \cdot \text{H}_2\text{O}$

Hazardous Ingredients: Not applicable.

PRECAUTIONARY MEASURES

WARNING: CHRONIC INHALATION HAZARD.

Avoid prolonged or repeated inhalation of dust.

Keep container closed.

Use only with adequate ventilation.

EMERGENCY/FIRST AID

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty.

SEE SECTION 5.

DOT Hazard Class: Not Regulated

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Mallinckrodt, Inc., Science Products Division, P.O. Box M, Paris, KY 40361.

SECTION 1 Physical Data

Appearance: Pale pink granular powder.

Odor: Odorless.

Solubility: Soluble in water, insoluble in alcohol.

Boiling Point: Decomposes 850°C (1562°F).

Melting Point: 700°C (1292°F).

Density: 2.95

Vapor Density (Air = 1): No information found.

Vapor Pressure (mm Hg): No information found.

Evaporation Rate: No information found.

SECTION 2 Fire and Explosion Information

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 3 Reactivity Data

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Emits toxic fumes of sulfur and manganese oxides when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Powdered metals, strong oxidizers.

SECTION 4 Leak/Spill Disposal Information

Ventilate area of leak or spill. Clean-up personnel may require respiratory protection from dust.

Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

Disposal: Whatever cannot be saved for reclamation may be delivered to an approved waste disposal facility.

Ensure compliance with local, state and federal regulations.

MANGANESE SULFATE

SECTION 5 Health Hazard Information

A. EXPOSURE / HEALTH EFFECTS

Inhalation:
May irritate the respiratory tract. Absorption of inorganic manganese salts through the lungs is poor but may occur in chronic poisoning.

Ingestion:
Excessive amounts may cause abdominal pain and nausea. Poorly absorbed through the gut, inorganic manganese salts may produce hypoglycemia and decreased calcium blood levels should absorption occur.

Skin Contact:
No adverse effects expected.

Eye Contact:
No adverse effects expected but dust may cause mechanical irritation.

Chronic Exposure:
Chronic manganese poisoning can result from excessive inhalation exposure to manganese dust and involves impairment of the central nervous system. Early symptoms include sluggishness, sleepiness, and weakness in the legs. Advanced cases have shown fixed facial expression, emotional disturbances, spastic gait, and falling. Repeated ingestions may cause lethargy and edema.

Aggravation of Pre-existing Conditions:
Persons with impaired respiratory function may be more susceptible to the effect of this substance.

B. FIRST AID

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:
If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.

Skin Exposure:
Wash exposed area with soap and water. Get medical advice if irritation develops.

Eye Exposure:
Wash thoroughly with running water. Get medical advice if irritation develops.

C. TOXICITY DATA (RTECS, 1982)

No information found.

SECTION 6 Occupational Control Measures

Airborne Exposure Limits:
-ACGIH Threshold Limit Value (TLV):
5mg(Mn)/m³ (TWA) Ceiling

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators: (NIOSH Approved)
If the TLV is exceeded, a dust/mist respirator may be worn up to ten times the TLV. Consult respirator supplier for details.

Skin Protection:
Wear protective gloves and clean body-covering clothing.

Eye Protection:
Safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION 7 Storage and Special Information

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage.

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