

## Section 1 Chemical Product and Company Identification

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For laboratory and industrial use only.  
Not for drug, food or household use.

**Product** MANGANESE(II) SULFATE, MONOHYDRATE**Synonyms** Manganous Sulfate / Manganese Sulfate

## Section 2 Hazards Identification

**Signal word:** WARNING**Pictograms:** GHS08 / GHS09**Target organs:** Central nervous system, Liver, Kidneys**GHS Classification:**

STOT-RE (Category 2)

Aquatic toxicity, chronic (Category 2)

**GHS Label information: Hazard statement:**

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

H411: Toxic to aquatic life with long lasting effects.

**Precautionary statement:**

P260: Do not breathe dust.

P273: Avoid release to the environment.

P314: Get medical attention if you feel unwell.

P391: Collect spillage.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

**Hazards not otherwise classified:**

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

## Section 3 Composition / Information on Ingredients

| Chemical Name     | CAS #      | %    | EINECS    |
|-------------------|------------|------|-----------|
| Manganese sulfate | 10034-96-5 | 100% | 232-089-9 |

## Section 4 First Aid Measures

**INGESTION:** MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

**INHALATION:** MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**EYE CONTACT:** MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

**SKIN ABSORPTION:** MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

## Section 5 Fire Fighting Measures

**Suitable Extinguishing Media:** Use extinguishing agent suitable for type of surrounding fire.

**Protective Actions for Fire-fighters:** In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

**Specific Hazards:** During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

## Section 6 Accidental Release Measures

**Personal Precautions:** Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

**Environmental Precautions:** Avoid runoff into storm sewers and ditches which lead to waterways.

**Containment and Cleanup:** Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

**Precautions for Safe Handling:** Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

**Conditions for Safe Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances.

## Section 8 Exposure Controls / Personal Protection

| Exposure Limits: | Chemical Name     | ACGIH (TLV)     | OSHA (PEL)      | NIOSH (REL)     |
|------------------|-------------------|-----------------|-----------------|-----------------|
|                  | Manganese sulfate | Not established | Not established | Not established |

**Engineering controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

**Respiratory protection:** None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

## Section 9 Physical &amp; Chemical Properties

|                                                          |                                                            |                                                               |
|----------------------------------------------------------|------------------------------------------------------------|---------------------------------------------------------------|
| <b>Appearance:</b> Solid. Pale red, effluorescent powder | <b>Evaporation rate ( = 1):</b> Data not available         | <b>Partition coefficient:</b> Data not available              |
| <b>Odor:</b> No odor                                     | <b>Flammability (solid/gas):</b> Data not available        | <b>Auto-ignition temperature:</b> Data not available          |
| <b>Odor threshold:</b> Data not available                | <b>Explosion limits: Lower / Upper:</b> Data not available | <b>Decomposition temperature:</b> Data not available          |
| <b>pH:</b> Data not available                            | <b>Vapor pressure (mm Hg):</b> Data not available          | <b>Viscosity:</b> Data not available                          |
| <b>Melting / Freezing point:</b> 57-117°C (134-242°F)    | <b>Vapor density (Air = 1):</b> Data not available         | <b>Molecular formula:</b> MnSO <sub>4</sub> ·H <sub>2</sub> O |
| <b>Boiling point:</b> Data not available                 | <b>Relative density (Specific gravity):</b> 2.95           | <b>Molecular weight:</b> 169.01                               |
| <b>Flash point:</b> Data not available                   | <b>Solubility(ies):</b> Soluble in water                   |                                                               |

## Section 10 Stability &amp; Reactivity

**Chemical stability:** Stable      **Hazardous polymerization:** Will not occur.

**Conditions to avoid:** Excessive temperatures.

**Incompatible materials:** Strong reducing agents.

**Hazardous decomposition products:** Sulfur oxides.

## Section 11 Toxicological Information

**Acute toxicity:** Data not available

**Skin corrosion/irritation:** Data not available

**Serious eye damage/irritation:** Data not available

**Respiratory or skin sensitization:** Data not available

**Germ cell mutagenicity:** Data not available

**Carcinogenicity:** Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Ca Prop 65: This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

**Reproductive toxicity:** Data not available

**STOT-single exposure:** Data not available

**STOT-repeated exposure:** May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard:** Data not available

**Potential health effects:**

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

**Signs and symptoms of exposure:** Men exposed to manganese dusts showed a decrease in fertility. Chronic manganese poisoning primarily involves the central nervous system. Early symptoms include languor, sleepiness and weakness in the legs. A stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. Prolonged or repeated inhalation may cause pneumonia. Exercise appropriate procedures to minimize potential hazards.

**Additional information:** RTECS #: OP0893500

## Section 12 Ecological Information

**Toxicity to fish:** No data available

**Toxicity to daphnia and other aquatic invertebrates:** No data available

**Toxicity to algae:** No data available

**Persistence and degradability:** No data available      **Bioaccumulative potential:** No data available

**Mobility in soil:** No data available      **PBT and vPvB assessment:** No data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

## Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

## Section 14 Transport Information (US DOT / CANADA TDG)

**UN/NA number:** Not applicable      **Shipping name:** Not Regulated

**Hazard class:** Not applicable      **Packing group:** Not applicable      **Reportable Quantity:** No      **Marine pollutant:** No

**Exceptions:** Not applicable      **2016 ERG Guide #** Not applicable

## Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

| Component         | TSCA   | CERCLA (RQ) | RCRA code  | DSL    | NDSL       | CA Prop 65                                                                                                             |
|-------------------|--------|-------------|------------|--------|------------|------------------------------------------------------------------------------------------------------------------------|
| Manganese sulfate | Listed | Not listed  | Not listed | Listed | Not listed | This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity. |

## Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.