



Material Safety Data Sheet Manganese (II) sulfate, monohydrate

Section 1 - Chemical Product and Company Identification

MSDS Name:

Manganese (II) sulfate monohydrate

Catalog Numbers:

LC16555

Synonyms:

Manganese (2+) sulfate, monohydrate; Manganous sulfate monohydrate

Company Identification:

LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:

(412) 826-5230

Emergency Phone Number:

(800) 424-9300

CHEMTREC Phone Number:

(800) 424-9300 or
(011) 703-527-3887

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
10034-96-5	Manganese (II) sulfate monohydrate	100

Section 3 - Hazards Identification

Emergency Overview

Appearance: Pink solid.

Danger! Harmful if inhaled or swallowed. May cause eye, skin, and respiratory tract irritation. May cause lung damage. May cause central nervous system effects. Hygroscopic (absorbs moisture from the air).

Target Organs: Central nervous system, lungs, and reproductive system.

Potential Health Effects

Eye:

May cause mild eye irritation.

Skin:

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

Ingestion:

May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation:

May cause respiratory tract irritation. The lowest exposure concentration of manganese at which early effects on the CNS and the lungs may occur is still unknown. However, once neurological signs are present, they tend to continue and worsen after exposure ends.



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Chronic:

Chronic inhalation or ingestion may result in manganism characterized by neurological symptoms such as headache, apathy, and weakness of the legs, followed by psychosis and neurological symptoms similar to those of Parkinson's disease. May impair fertility. Other chronic effects from inhaling high amounts of manganese include an increased incidence of cough and bronchitis and susceptibility to infectious lung disease.

Section 4 - First Aid Measures

Eyes:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin:

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:

Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation:

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician:

Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material will not burn.

Extinguishing Media:

For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Autoignition Temperature:

Not available

Flash Point:

Not available

NFPA Rating:

(estimated) Health: 1; Flammability: 0; Instability: 0

Explosion Limits:

Not available

Section 6 - Accidental Release Measures

General Information:

Use proper personal protective equipment as indicated in Section 8.



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Spills/Leaks:

Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust.

Storage:

Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Manganese(II) sulfate monohydrate	0.2 mg/m ³ TWA (as Mn) (listed under Manganese, inorganic compounds).	1 mg/m ³ TWA (as Mn) (listed under Manganese compounds, n.o.s.). 500 mg/m ³ IDLH (as Mn) (listed under Manganese compounds, n.o.s.).	5 mg/m ³ Ceiling (as Mn) (listed under Manganese compounds, n.o.s.).

OSHA Vacated PELs:

Manganese (II) sulfate monohydrate: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Color: Pink



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Odor:	Odorless
pH:	Not available
Vapor Pressure:	Not available
Vapor Density:	Not available
Evaporation Rate:	Not available
Viscosity:	Not available
Boiling Point:	850°C
Freezing/Melting Point:	700°C
Decomposition Temperature:	850°C
Solubility in water:	Completely soluble in water
Specific Gravity/Density:	3.25 g/cm ³
Molecular Formula:	MnSO ₄ .H ₂ O
Molecular Weight:	169.02

Section 10 - Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Dust generation, moisture, confined spaces.

Incompatibilities with Other Materials:

Can react with strong acid, strong oxidizing agents, and powdered metals; may react violently with hydrogen peroxide.

Hazardous Decomposition Products:

Oxides of sulfur, oxides of manganese.

Hazardous Polymerization:

Will not occur.

Section 11 - Toxicological Information

RTECS:

CAS# 10034-96-5: OP0893500

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 10034-96-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology:

The U.S. EPA stated that epidemiological studies of inorganic manganese compounds in humans indicate effects on the respiratory system at levels below 1 mg/m³.

Teratogenicity:

No data available.

Reproductive:

Men exposed to manganese dusts showed a decrease in fertility.

Mutagenicity:

No information found

Neurotoxicity:

Manganese is neurotoxic.



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Section 12 - Ecological Information

No information found

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Not regulated

Hazard Class:

UN Number:

Packing Group:

Section 15 - Regulatory Information

US Federal

TSCA:

CAS# 10034-96-5 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed because the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

SARA Reportable Quantities (RQ):

None of the chemicals in this material have an RQ.

CERCLA/SARA Section 313:

This material contains Manganese (II) sulfate monohydrate (listed as Manganese compounds, n.o.s.), >98%, (CAS# 10034-96-5) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

OSHA - Highly Hazardous:

None of the chemicals in this product are considered highly hazardous by OSHA.

US State

State Right to Know:

CAS# 10034-96-5 can be found on the following state right to know lists: California, (listed as Manganese compounds, n.o.s.), New Jersey, (listed as Manganese compounds, n.o.s.), Pennsylvania, (listed as Manganese compounds, n.o.s.), Minnesota, (listed as Manganese compounds, n.o.s.).

California Regulations:

None.

European/International Regulations

Canadian DSL/NDSL:

CAS# 7785-87-7 is listed on Canada's DSL List.



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Canada Ingredient Disclosure List:

CAS# 10034-96-5 (listed as Manganese compounds, n.o.s.) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Other Information

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