

**Material Safety Data Sheet
Manganese (II) Sulfate Monohydrate**

Section 1 - Chemical Product and Company Identification

MSDS Name: Manganese Sulfate Monohydrate Powder

Catalog Numbers: S80061ACS, S80071-2, M113 3, M113 500, M113-3, M113-500, M1133, M113500, M114-12, M114-212, M114-500, M114212, M114500, M11512, M115212, M115500, NC9747671

Synonyms: Manganese(II) sulfate, monohydrate, manganese sulfate monohydrate

Company Identification:

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
10034-96-5	Manganese sulfate, monohydrate	>98	unlisted

Hazard Symbols: XN

Risk Phrases: 40/20/22

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: pink. **Caution!** May cause eye and skin irritation. May cause respiratory and digestive tract irritation. May cause central nervous system effects. Hygroscopic.

Target Organs: Central nervous 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.

Chronic: Chronic inhalation or ingestion may cause argyria characterized by blue-gray discoloration of the eyes, skin and mucous membranes. Chronic skin contact may cause permanent discoloration of the skin.

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: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Remove contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Antidote: The use of Calcium disodium EDTA as a chelating agent should be determined by qualified medical personnel.

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.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions.

Section 7 - Handling and Storage

Handling: Wash hands before eating. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Manganese sulfate, monohydrate	none listed	none listed	none listed

OSHA Vacated PELs: Manganese 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 impervious gloves.

Clothing: Wear appropriate protective gloves and clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: pink

Odor: odorless

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 1562 deg F

Freezing/Melting Point: 1292 deg F

Autoignition Temperature: Not available.

Flash Point: Not available.

Decomposition Temperature: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 0; Reactivity: 0

Explosion Limits, Lower: Not available.

Upper: Not available.

Solubility: Completely soluble in water.

Specific Gravity/Density: 3.25 (water=1)

Molecular Formula: MnSO4.H2O

Molecular Weight: 169.009

Section 10 - Stability and Reactivity

Chemical Stability: Stable.

Conditions to Avoid: Incompatible materials.

Incompatibilities with Other Materials: Can react with strong acid, strong oxidizing agents, powdered metals; may react violently with hydrogen peroxide.

Hazardous Decomposition Products: Carbon dioxide, sulfur oxides (SOx), including sulfur oxide and sulfur dioxide, oxides of manganese.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 10034-96-5: OP0893500

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 10034-96-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No data available.

Teratogenicity: No data available.

Reproductive Effects: No data available.

Neurotoxicity: No data available.

Mutagenicity: No data available.

Other Studies: No data available.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	No information available.				No information available.
Hazard Class:					
UN Number:					
Packing Group:					

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 10034-96-5 is not on the TSCA Inventory. It is a hydrate and exempt from TSCA Inventory requirements (40CFR720.3(u)(2)).

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA**Section 302 (RQ)**

None of the chemicals in this material have an RQ.

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 10034-96-5: chronic.

Section 313

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

Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

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

STATE

CAS# 10034-96-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

XN

Risk Phrases:

R 40/20/22 Harmful : possible risk of irreversible effects through inhalation and if swallowed.

Safety Phrases:**WGK (Water Danger/Protection)**

CAS# 10034-96-5: 1

Canada**Canada**

None of the chemicals in this product are listed on the DSL or NDSL list. This product has a WHMIS classification of D2B.

CAS# 10034-96-5 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 10034-96-5: OEL-AUSTRALIA:TWA 5 mg(Mn)/m³ JANUARY 1993 OEL-BELGIUM:TWA 5 mg(Mn)/m³ JANUARY 1993 OEL-CZECHOSLOVAKIA:TWA 2 mg(Mn)/m³;STEL 6 mg(Mn)/m³ JANUARY 1993 OEL-DENMARK:TWA 2.5 mg(Mn)/m³ JANUARY 1993 OEL-FINLAND:TWA 2.5 mg(Mn)/m³ JANUARY 1993 OEL-HUNGARY:TWA 0.3 mg(Mn)/m³;STEL 0.6 mg(Mn)/m³ JANUARY 1993 OEL-JAPAN:TWA 0.3 mg(Mn)/m³ JANUARY 1993 OEL-THE NETHERLANDS:TWA 1 mg(Mn)/m³ JANUARY 1993 OEL-POLAND:TWA 0.3 mg(Mn)/m³ JANUARY 1993 OEL-SWEDEN:TWA 1 mg(Mn)/m³;STEL 2.5 mg(Mn)/m³ (resp. dust) OEL-SWEDEN:TWA 2.5 mg(Mn)/m³;STEL 5 mg(Mn)/m³ (total dust) OEL-UNITED KINGDOM:TWA 5 mg(Mn)/m³ JANUARY 1