

Material Safety Data Sheet

Manganese (II) Chloride Tetrahydrate

ACC# 13600

Section 1 - Chemical Product and Company Identification

MSDS Name: Manganese (II) Chloride Tetrahydrate**Catalog Numbers:** M87-100, M87-500, M87500LC, NC9473561**Synonyms:** Manganous dichloride, tetrahydrate; manganese chloride, tetrahydrate**Company Identification:**

Fisher Scientific

1 Reagent Lane

Fair Lawn, NJ 07410

For information, call: 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
13446-34-9	Manganese (II) chloride, tetrahydrate	100.0	unlisted

Hazard Symbols: None listed.**Risk Phrases:** None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: red solid. **Caution!** May cause eye and skin irritation. May cause respiratory and digestive tract irritation. May cause central nervous system effects. Inhalation of fumes may cause metal-fume fever. Can cause adverse reproductive effects.

Target Organs: Central nervous system.**Potential Health Effects****Eye:** Causes eye irritation.**Skin:** May cause skin irritation.**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea.**Inhalation:** May cause respiratory tract irritation.**Chronic:** No information found. Chronic inhalation or ingestion of silver salts may cause argyria characterized by a permanent blue-gray discoloration of the eyes, skin, mucous membranes, and internal organs.

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 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 and move 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.

Flash Point: Non-flammable.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

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

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. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

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

Storage: Store in a tightly closed container. Store in a cool, dry area away from incompatible substances.

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 (II) chloride, tetrahydrate	none listed	none listed	none listed

OSHA Vacated PELs: Manganese (II) chloride, tetrahydrate: 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 protective gloves and clothing to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 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: red

Odor: none reported

pH: 5.5

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Evaporation Rate: Not applicable.

Viscosity: Not applicable.

Boiling Point: 2174 deg F

Freezing/Melting Point: 1202 deg F

Decomposition Temperature: > 100 deg C

Solubility: 72%

Specific Gravity/Density: 2.977 @ 25C

Molecular Formula: MnCl₂

Molecular Weight: 125.844

Section 10 - Stability and Reactivity

Chemical Stability: Stable.

Conditions to Avoid: Incompatible materials.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Hydrogen chloride, oxides of manganese.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 13446-34-9: 009650000**LD50/LC50:**

CAS# 13446-34-9:

Oral, rat: LD50 = 1484 mg/kg;

Carcinogenicity:

CAS# 13446-34-9: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No data available.**Teratogenicity:** No data available.**Reproductive Effects:** Men exposed to manganese dusts showed a decrease in fertility.**Neurotoxicity:** No data available.**Mutagenicity:** Laboratory experiments have shown mutagenic effects.**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# 13446-34-9 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (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

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 13446-34-9: chronic.

Section 313

This material contains Manganese (II) chloride, tetrahydrate (listed as Manganese), 100 0%, (CAS# 13446-34-9) 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 depleters. This material does not contain any Class 2 Ozone depleters.

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# 13446-34-9 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:

Not available.

Risk Phrases:

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 13446-34-9: No information available.

Canada - DSL/NDSL

None of the chemicals in this product are listed on the DSL or NDSL list. **Canada - WHMIS**

This product has a WHMIS classification of D2B.

Canadian Ingredient Disclosure List

CAS# 13446-34-9 (listed as Manganese) is listed on the Canadian Ingredient Disclosure List.

Exposure Limits

CAS# 13446-34-9: OEL-AUSTRALIA:TWA 5 mg(Mn)/m³ JANUARY 1993 OEL-BE
LGIUM:TWA 5 mg(Mn)/m³ JANUARY 1993 OEL-CZECHOSLOVAKIA:TWA 2 mg(Mn)/m³
3;STEL 6 mg(Mn)/m³ JANUARY 1993 OEL-DENMARK:TWA 2.5 mg(Mn)/m³ JANUA
RY 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 1993 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997

Revision #2 Date: 3/18/2003

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