

Section 1 - Chemical Product and Company Identification

MSDS Name: Manganese metal
Catalog Numbers: M78
Synonyms: Colloidal manganese; Magnacat
Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 7439-96-5
Chemical Name: Manganese
%: 100%
EINECS#: 231-105-1

Hazard Symbols: XI



Risk Phrases: 2 36/37/38 48

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Caution! Causes respiratory tract irritation. May cause digestive tract irritation. Moisture sensitive. Causes eye and skin irritation. Target Organs: Central nervous system.

Potential Health Effects

Eye: Causes eye irritation.

Skin: Causes skin irritation.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Inhalation: May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause motor incoordination and speech abnormalities.

Chronic: Prolonged or repeated inhalation of dusts may cause neurological damage. May cause reproductive and fetal effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

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.

Notes to

Physician:

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. Dusts may be combustible when exposed to heat, flame, or oxidizing agents.

Extinguishing Media: Use dry chemical to fight fire. DO NOT USE WATER!

Autoignition Temperature: Not available.

Flash Point: Not available

Explosion Limits Lower: Not available

Explosion Limits Upper: Not available

NFPA Rating: health: 2; flammability: 1; instability: ;

Section 6 - Accidental Release Measures

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

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use only in a chemical fume hood.

Storage: Store in a tightly closed container. Keep under a nitrogen blanket.

Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Manganese	0.2 mg/m ³	1 mg/m ³ TWA (fume) 500 mg/m ³ IDLH	5 mg/m ³ Ceiling (fume)

OSHA Vacated PELs: Manganese: 1 mg/m³ TWA (fume)

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

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 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: reddish-gray or silvery

Odor: None reported.

pH: Not available

Vapor Pressure: 1 mm Hg @ 1292C

Vapor Density: Not available
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: 1900 deg C (3,452.00°F)
Freezing/Melting Point: 1260 deg C (2,300.00°F)
Decomposition Temperature: Not available
Solubility in water: Insoluble in water.
Specific Gravity/Density: 7.20
Molecular Formula: Mn
Molecular Weight: 54.938

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, dust generation, moisture, excess heat.
Incompatibilities with Other Materials Not available
Hazardous Decomposition Products No data available.
Hazardous Polymerization Has not been reported.

Section 11 - Toxicological Information

RTECS#: CAS# 7439-96-5: OO9275000
LD50/LC50: RTECS:
CAS# 7439-96-5: Draize test, rabbit, eye: 500 mg/24H Mild;
Draize test, rabbit, skin: 500 mg/24H Mild;
Oral, rat: LD50 = 9 gm/kg;
.
Carcinogenicity: Manganese - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology: Not available
Teratogenicity: Not available
Reproductive: Not available
Neurotoxicity: Not available
Mutagenicity: Not available
Other: Not available

Section 12 - Ecological Information

Not 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
Shipping Name: Not regulated as a hazardous material
Hazard Class:
UN Number:
Packing Group:
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

Section 15 - Regulatory Information

US Federal

TSCA

CAS# 7439-96-5 is listed on the TSCA Inventory.

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.
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.
Section 313	This material contains Manganese (CAS# 7439-96-5, 100%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.
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:	
STATE	Manganese can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.
California Prop 65	
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: XI

Risk Phrases:

R 2 Risk of explosion by shock, friction, fire or other sources of ignition.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 48 Danger of serious damage to health by prolonged exposure.

Safety Phrases:

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 7439-96-5: Not available

Canada

CAS# 7439-96-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: D2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 7439-96-5 is listed on Canada's Ingredient Disclosure List

Section 16 - Other Information

MSDS Creation Date: 9/02/1997

Revision #3 Date 10/03/2005

The information above is believed to be accurate and represents the best information currently

available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.