



MATERIAL SAFETY DATA SHEET

1533 W. Henrietta Rd.
Avon, New York 14414
(716) 226-6177

MSDS No. MM 190
Effective Date October 29, 1998

SECTION V HEALTH HAZARD DATA

MM 190

Threshold Limited Value TWA: As Manganese [CAS No. 7439-96-5] as Manganese Dust and compounds 5 mg/m³ ceiling limit (ACGIH 1992-93).

Effects of Overexposure **INHALATION:** May cause irritation to respiratory tract and mucous membranes. Symptoms: languor, sleepiness, weakness, emotional disturbances, spastic gait, paralysis. Picture resembles Parkinsonism. **INGESTION:** May irritate gastrointestinal tract. May be harmful. **EYES:** Contact with dust or solution may cause irritation. **SKIN:** Contact with dust or solution may cause irritation.

Emergency and First Aid Procedures **EYES:** Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention. **SKIN:** Flush thoroughly with water, then wash with mild soap and water. **INGESTION:** If conscious, promptly give two or four glasses of water to drink and induce vomiting. Get prompt medical attention. Never give anything by mouth to an unconscious person. **INHALATION:** Immediately remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention. Never give anything by mouth to an unconscious person.

SECTION VI REACTIVITY DATA

Stability	Unstable		Conditions to Avoid	High temperatures: at or near boiling point of the anhydrous form, see below.
	Stable	X		

Incompatibility (Materials to Avoid) Reactive metals: sodium, potassium, zinc. Water reactive materials such as oleum (conc. sulfuric acid). Strong acids.

Hazardous Decomposition Products At high temperatures (the boiling point of the anhydrous form is 1190°C), may give off fumes of manganese chloride. Hydrogen chloride gas.

Hazardous Polymerization		Conditions to Avoid	Not applicable.
May Occur	Will Not Occur		
	X		

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Sweep up cleanly with a minimum of dusting and place in a suitable container for disposal. Wash spill area with soap and water.

Waste Disposal Method Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Dissolve in water and flush to sewer with copious amounts of water, or uncontaminated material may be disposed of in a sanitary landfill.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) Wear a NIOSH/MSHA-approved dust mask or work in a ventilation hood.

Ventilation	Local Exhaust	No.	Special	No.
	Mechanical (General)	Recommended.	Other	No.

Protective Gloves Rubber or Plastic. **Eye Protection** Chemical safety glasses.

Other Protective Equipment Goggles, smock, apron, eye wash station, proper gloves, ventilation hood.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool, dry place. Wash contaminated clothing before reuse. Wash thoroughly after handling.
Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals.
Very hygroscopic. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Use with adequate ventilation. Remove and wash contaminated clothing.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

Revision No. 3	Date 10/29/98	Approved Michael Raszeja	Chemical Safety Coordinator MR
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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. * Hazardous Materials Industrial Standards. Printed on recycled paper.

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

Product	MANGANESE CHLORIDE	<p>CHEMTREC 800-424-9300 Day 716-226-6177</p> <p>NFPA HAZARD RATING</p> <table border="1"> <tr> <td>LEAST</td> <td>SLIGHT</td> <td>MODERATE</td> <td>HIGH</td> <td>EXTREME</td> </tr> <tr> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> </table> <p>HMIS *</p> <table border="1"> <tr> <td>Health</td> <td>1</td> </tr> <tr> <td>Fire</td> <td>0</td> </tr> <tr> <td>Reactivity</td> <td>1</td> </tr> </table>	LEAST	SLIGHT	MODERATE	HIGH	EXTREME	0	1	2	3	4	Health	1	Fire	0	Reactivity	1
LEAST	SLIGHT		MODERATE	HIGH	EXTREME													
0	1		2	3	4													
Health	1																	
Fire	0																	
Reactivity	1																	
Chemical Synonyms	Manganous Chloride Tetrahydrate																	
Formula	MnCl ₂ •4H ₂ O																	
Unit Size	up to 2.5 Kg.																	
C.A.S. No.	13446-34-9																	

SECTION II INGREDIENTS OF MIXTURES

Principal Component(s)	%	TLV Units
Manganese Chloride	100%	See Section V.

WARNING! MAY BE HARMFUL IF SWALLOWED OR INHALED.

MAY CAUSE IRRITATION TO EYES AND SKIN.

SECTION III PHYSICAL DATA

Melting Point (°F)	58°C (136°F)	Specific Gravity (H₂O = 1)	1.913 at 20°C
Boiling Point (°F)	200°C (392°F)	Percent Volatile by Volume (%)	Non-volatile (NA).
Vapor Pressure (mm Hg)	Negligible as solid.	Evaporation Rate (=1)	Non-volatile (NA).
Vapor Density (Air=1)	Data not listed.		
Solubility in Water	200 grams per 100 mL. water at 20°C.		
Appearance & Odor	Light-pink crystals or crystalline powder; no odor. Deliquescent.		

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used)	Non-flammable (NA).	Flammable Limits in Air % by Volume	NA	Lower	Upper
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Extinguisher Media Use any media suitable for extinguishing supporting fire.

SPECIAL FIREFIGHTING PROCEDURES

In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Fire or excessive heat may produce hazardous decomposition products. When heated to decomposition, emits toxic fumes of chlorides and manganese.

D.O.T. NON-REGULATED.

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20