

# MATERIAL SAFETY DATA SHEET

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M0984  
MSDS No. 83615-02, 83615-03  
Effective Date 6/2/88

## SECTION I NAME

Product	Manganese Chloride, Tetrahydrate
Chemical Synonyms	Manganous Chloride
Formula	MnCl <sub>2</sub> · 4H <sub>2</sub> O
RTECS #	OO9650000
C.A.S. No.	13446-34-9

## 24 HOUR EMERGENCY ASSISTANCE

CHEMTREC 800-424-9300 Day (312) 364-0150	HEALTH 2			
	FLAMMABILITY 0			
	REACTIVITY 0			
HAZARD RATING				
LEAST 0	SLIGHT 1	MODERATE 2	HIGH 3	EXTREME 4

## SECTION II HAZARDOUS INGREDIENTS OF MIXTURES

Principal Hazardous Component(s)	%	TLV Units
NA = Not Applicable		
NE = None Established		

## SECTION III PHYSICAL DATA

Melting Point (°F)	58°C	Specific Gravity (H <sub>2</sub> O = 1)	2.01
Boiling Point (°F)	198°C (loses water)	Percent Volatile by Volume (%)	NA
Vapor Pressure (mm Hg)	NA	Evaporation Rate (= 1)	NA
Vapor Density (Air = 1)	NA		
Solubility in Water	Extremely		
Appearance and Odor	Reddish crystals, no odor.		

## SECTION IV FIRE AND EXPLOSION HAZARD DATA

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

SPECIAL FIREFIGHTING PROCEDURES	In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.
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UNUSUAL FIRE AND EXPLOSION HAZARDS	Not considered to be a fire hazard. Not considered to be an explosion hazard.
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D.O.T.	Not Regulated
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## SECTION V HEALTH HAZARD DATA

Threshold Limited Value	5 mg/m <sup>3</sup> (as Mn) TWA
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Effects of Overexposure	Acute: Irritation possible to skin, eyes, lungs, mucous membranes, and GI tract. Nausea. Chronic: Systemic metal poisoning hazard, nerve damage, muscle disorders.
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Emergency and First Aid Procedures	SKIN: Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists. EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician. INGESTION: If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Never give anything by mouth to an unconscious person. Call a physician immediately.
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## SECTION VI REACTIVITY DATA

Stability	Unstable	Conditions to Avoid	Heat.
	Stable		X

Incompatibility (Materials to avoid)	Reactive metals, reducing agent.
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Hazardous Decomposition Products	Chlorine compounds.
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Hazardous Polymerization	Conditions to Avoid	None
May Occur	Will Not Occur	X

## SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled	Remove all sources of ignition. Ventilate area of leak or spill. Clean-up personnel may require protection from inhalation of dust. Spills: Clean up in a manner that does not disperse dust into the air.
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Waste Disposal Method	Disposal: Whatever cannot be saved for reclamation may be disposed in a RCRA-approved waste facility. Do not flush to the sewer.
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Discharge, treatment, or disposal may be subject to federal, state, or local laws.

## SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type)	Dust		
Ventilation	Local Exhaust X Mechanical (General) X	Special Other	
Protective Gloves	Vinyl or Rubber	Eye Protection	Goggles
Other Protective Equipment	Lab coat		

## SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storing	Store in a cool dry location. Keep container tightly closed when not in use.
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Other Precautions	Read label on container before using. Conditions Aggravated/Target Organs: Persons with preexisting respiratory or nerve disorders may be more susceptible.
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Rev. No.	2	Date	6/2/88	Approved	K. Kuchel	Chemical Safety Coordinator	RMC
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Approved by U.S. Department of Labor "essentially similar" to form OSHA-20