



CARUS[®] Mn P MANGANESE SULFATE

Material Safety Data Sheet

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Section 1 Chemical Product and Company Identification

MANUFACTURER'S NAME: CARUS CORPORATION	TELEPHONE NUMBER: (815) 223-1500 Web: www.caruschem.com
MANUFACTURING FACILITY: Carus Corporation 1500 Eighth Street P. O. Box 1500 LaSalle, IL 61301	EMERGENCY TELEPHONE NO. (800) 435 - 6856 (USA) (815) 223 -1500 (other countries) CHEMTREC[®] TELEPHONE NO. (800) 424-9300 (USA)

Section 2 Composition and Information on Ingredients

SYNONYMS: Manganese Sulfate, Monohydrate Manganese Sulfate			
CLASS: Inorganic salt			
HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) RATINGS:			
Health Hazard	1		
Flammability Hazard	0		
Reactivity Hazard	0		
Personal Protection Index	E (Safety Glasses, Gloves, and Dust Respirator)		
HAZARDOUS INGREDIENTS:			
<u>Material or Component</u>	<u>CAS No.*</u>	<u>%</u>	<u>Hazard Data</u>
Manganese sulfate monohydrate	10034-96-5	>88	PEL** C**** 5 mg Mn per cubic meter of air TLV-TWA *** 0.2 mg Mn per cubic meter of air IDLH***** 500 mg Mn per cubic meter of air
* Chemical Abstract Service Number			
** OSHA Permissible Exposure Limit, manganese compounds (as Mn), 29 CFR 1910.1000 Table Z-1.			
*** American Conference of Governmental Hygienists, 1999. TLV-TWA = the time weighted average concentration for a normal 8-hour workday and a 40-hour work week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.			
**** Ceiling Exposure Limit or maximum exposure concentration not to be exceeded under any circumstances.			
***** Immediately dangerous to life and health concentration (IDLH) is taken from NIOSH (National Institute of Occupational Safety and Health) pocket guide to chemical hazards, Feb 2004 edition.			

Section 3 Health Hazard Data

EFFECTS OF ACUTE EXPOSURE
1. Eye Contact May cause eye irritation.
2. Skin Contact May cause skin irritation.
3. Inhalation May cause irritation of nasal passages. Additional effects may include shortness of breath and asthma.



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4. Ingestion May cause abdominal pain and nausea.
EFFECTS OF CHRONIC EXPOSURE Prolonged inhalation of manganese compounds above the TLV-TWA may cause lung irritation or central nervous system disorders. The symptoms simulate Parkinson's disease.
CARCINOGENICITY NTP: No IARC Monographs: No OSHA Regulated: No
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE Dust or fine powder may further irritate mucous membranes or open wounds.

Section 4 First Aid Measures

EMERGENCY AND FIRST AID PROCEDURES
1. Eyes Immediately flush eyes with large amounts of water for at least 15 minutes holding lids apart to ensure flushing of the entire surface. Seek medical attention if irritation persists.
2. Skin Flush contaminated areas with large amounts of water for at least 15 minutes. Remove contaminated clothing. Wash clothing before reuse.
3. Inhalation Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Seek medical attention.
4. Ingestion <u>Never give anything by mouth to an unconscious or convulsing person.</u> Seek medical attention.

Section 5 Fire Fighting Measures

FLASHPOINT None
FLAMMABLE OR EXPLOSIVE LIMITS Lower: Nonflammable Upper: Nonflammable
EXTINGUISHING MEDIA Use extinguishing medium appropriate for surrounding materials.
SPECIAL FIREFIGHTING PROCEDURES In the event of a fire avoid breathing vapors or dust, may use an appropriate breathing apparatus. Dike area to prevent run off and contamination of water sources, if possible.
UNUSUAL FIRE AND EXPLOSION HAZARDS Keep away from strong oxidizers.

Section 6 Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED Ventilate area of leak or spill. Clean up spills immediately by scooping CARUS [®] Mn P Manganese Sulfate into a suitable container for reclamation or disposal, using a method that does not generate dust. Flush contaminated floors with abundant quantities of water into sewer, if permitted by federal, state, or local regulations.
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Section 7 Handling and Storage

Store in a cool, dry, ventilated area in closed container. Segregate from permanganates, other oxidizing agents, peroxides, and chlorates. Protect containers against physical damage.
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Section 8 Exposure Controls and Personal Protection



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VENTILATION REQUIREMENTS Provide sufficient mechanical and/or local exhaust to maintain exposure levels below TLV-TWA limit for Mn.
RESPIRATORY PROTECTION In cases where high dust exposure may exist, the use of NIOSH-MSHA dust and mist respirator or an air-supplied respirator is advised. Engineering or administrative controls should be implemented to control dust.
EYE PROTECTION Primary eye protection (safety glasses or goggles).
GLOVES Rubber or plastic gloves should be worn.
OTHER PROTECTIVE EQUIPMENT Normal work clothing is sufficient.

Section 9 Physical and Chemical Properties

BOILING POINT 850°C (1562°F) Decomposes	VAPOR PRESSURE (mm Hg) Not applicable
SOLUBILITY IN WATER	Very soluble
VAPOR DENSITY Not applicable	PERCENT VOLATILE BY VOLUME Not volatile
MELTING POINT 700°C (1292°F) Starts to lose all water @ 400-500°C	
APPEARANCE AND ODOR Cream colored powder; odorless	

Section 10 Stability and Reactivity

STABILITY Stable under normal conditions.
CONDITIONS TO AVOID Contact with incompatible materials or heat (400°C-500°C)
INCOMPATIBLE MATERIALS Powdered metals and strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS Oxides of sulfur and the contained metal.
CONDITIONS' CONTRIBUTING TO HAZARDOUS POLYMERIZATION Material is not known to polymerize.

Section 11 Toxicological Information

Most diagnosed cases of manganese toxicity in humans have been reported following long-term exposures to airborne concentrations of manganese above the TLV-TWA. The usual form of chronic manganese toxicity involves the central nervous system.
Reports of adverse effects in humans from ingestion of manganese are rare.

Section 12 Ecological Information

Inorganic manganese compounds have negligible vapor pressures but exist in air as suspended particulate matter, which settle under the influence of gravity.
The transport of manganese in water is influenced by the solubility of the form present. Insoluble forms, such as manganese dioxide, are transported as sediments.
The bioaccumulation of manganese in the food chain does not appear to be significant.



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Section 13 Disposal Considerations

Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14 Transport Information

Proper Shipping Name:	Manganese Compound
ID Number:	Not regulated by DOT
Product R.Q. (lb.)	None

Section 15 Regulatory Information

Carus Mn P Manganese Sulfate contains > 88 % manganese compounds (CAS Reg. No. N/A) as part of the mixture and is subject to the reporting requirements of Section 313 of Title III Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Components of this product are listed on the TSCA Inventory.

Section 16 Other Information

MSDS Status:
Revised Date: December 2007
Revised By: Chithambarathanu Pillai (S.O.F.)

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