

Identity (Trade name on label) Manganese Dioxide
 UIC, Inc. Part # CM300-009
 CAS Number 1313-13-9
 Date Prepared 1986
 Date Reviewed/Revised 1/92, 1/96, 9/00

Manufactured or UIC, Inc.
 Distributed by: P. O. Box 863
 Joliet, IL 60434
 815-727-5431
 800-424-9300 (for Emergencies)

Section 313 Notification

This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372):

<u>Category #</u>	<u>Category Name</u>	<u>Percent by Weight</u>
N450	Manganese Compounds	100% (as Manganese Dioxide)

This information should be included in all MSDSs that are copied and distributed for this material.

MATERIAL IDENTIFICATION AND INFORMATION

Hazardous Components 1% or greater; Carcinogens 0.1% or greater

<u>COMPONENTS</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>OTHER LIMITS RECOMMENDED</u>
Manganese Dioxide (as MN) ceiling	5mg/m ³		
(TWA, fume)	1mg/m ³	1mg/m ³	
(STEL, fume)	3mg/m ³	3mg/m ³	
(TWA, dust)		5mg/m ³	
(NIOSH, TWA)			1mg/m ³
(NIOSH, STEL)			3mg/m ³
(DFG MAK, TWA total dust)			5mg/m ³
(DFG MAK, 30 min. peak, avg., value, 1 time/shift)			50mg/m ³
MnO ₂ is subject to the reporting requirements of S.A.R.A. 313			

PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling Point	ND	Specific Gravity	5.026
Vapor Pressure	ND	Melting Point	Decomposes @ 535°C
Vapor Density	ND	Evaporation Rate	ND
Solubility in Water		Water Reactive	ND

Manganese Dioxide

PHYSICAL AND CHEMICAL CHARACTERISTICS (con't)

Appearance Black or brown-black powder or granules.

Odor Odorless.

FIRE AND EXPLOSION HAZARD DATA

Flash Point ND Auto Ignition Temperature ND
Flammability Limits in Air % by Volume ND LEL ND LEL

Extinguisher Media Water only, no dry chemical, carbon dioxide, or halogen.

Special Fire Fighting Procedures Move containers from fire area if you can do so without risk. Apply cooling water to containers exposed to flames until well after fire is out. For massive fire, use unmanned monitor or hose holder, or withdraw and let fire burn. Wear protective clothing and equipment to avoid breathing vapors or dusts.

Unusual Fire and Explosion Hazards Negligible fire hazard when exposed to heat or flame. Oxidizers decompose on heating to yield oxygen to other gases which increase the burning rate of combustible matter. Contact with easily oxidizable, organic, or combustible materials may result in ignition, violent combustion, or explosion.

REACTIVITY HAZARD DATA

Stability Stable Unstable Conditions None to Avoid

Incompatible Materials Aluminum, chlorates, hydrochloric acid, hydrogen peroxide, hydrogen sulfide, hypophosphites, organic matter, phosphides, sulfides, sulfur.

Hazardous Decomposition Products Manganese Sesquioxide and oxygen.

Hazardous Will not Occur May Occur Conditions None to Avoid

HEALTH HAZARD DATA

Carcinogen Listed in NTP OSHA IARC Not Listed

HEALTH HAZARDS

Inhalation Causes bronchitis, pneumonia, or metal fume fever, or aggravated pulmonary problems or allergic diseases of respiratory tract following lengthy exposure. Reproductive effects have been reported in animals.

Skin Absorption May cause irritation with redness and pain, leading to chronic dermatitis.

Eye Contact May cause redness, tearing, pain, and irritation. Prolonged exposure may include conjunctivitis.

HEALTH HAZARD DATA (con't)

Ingestion Possible systemic poisoning known as "Manganism", a Parkinsonian-like syndrome. Effects range from flu-like symptoms like gastrointestinal irritation to manganese poisoning. Once manganism is well established, it becomes irreversible and progressive, but not fatal.

Signs and Symptoms of Exposure Irritation of skin or eyes, flu-like illness with respiratory irritation, abdominal pain, or nausea, metal taste in mouth.

Medical Conditions Aggravated by Exposure Bronchitis, pneumonitis, and allergic respiratory diseases.

FIRST AID

Inhalation Remove to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically. Get medical attention immediately.

Skin Absorption Remove contaminated clothing at once. Wash affected area with soap and large amounts of water for 15-20 min., removing all evidence of chemicals. Get medical attention immediately.

Eye Contact Wash eyes immediately with large amounts of water for 15-20 min., lifting upper and lower eyelids to remove all chemicals. Get immediate medical attention.

Ingestion Treat symptomatically and supportively. Get medical attention immediately. Prevent aspiration from vomiting by keeping head lower than hips. Antidote may be given by qualified medical personnel if necessary.

CONTROL AND PROTECTIVE MEASURES

Respiratory Protection Specific respirator selection must be based on the contamination levels found in the workplace, not exceed the working limits of the respirator, and must be jointly approved by NIOSH-MSHA.

Protective Gloves Appropriate to prevent contact.

Eye Protection Splash-proof or dust-resistant safety goggles.

Ventilation to be Used Local exhaust to meet published exposure limits.

Other Protective Clothing Impervious clothing and equipment to prevent repeated or prolonged skin contact.

Hygienic Work Practices If possibility of eye or skin exposure, an eye-wash fountain and quick drench shower must be provided in the immediate work area. Do not eat, drink, or smoke in the laboratory.

PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES

Steps to be Taken if Material is Spilled or Released Keep combustibles away from spilled material. Isolate area and deny entry from unnecessary people. Do not clean up without protective clothing to prevent exposure. Dry spills should be shoveled into clean, dry containers for proper disposal.

PRECAUTIONS FOR SAFE HANDLING AND USE/LEAK PROCEDURES (con't)

Waste Disposal Methods Observe all Federal, State and Local regulations for storage and disposal. For assistance, contact the District Director of the E.P.A.

Precautions to be Taken in Handling and Storage Avoid contact with combustible materials; ignition or explosion may result. Keep away from incompatible substances. Avoid contamination of water sources. Large spills should be diked to control contamination.

Other Precautions and/or Special Hazards Subject to S.A.R.A. Section 313 Annual Toxic Chemical Release Reporting.

UIC, Inc. has obtained the most current chemical information available to us in updating this Material Safety Data Sheet. However, users should always use caution when working with chemicals, as UIC, Inc. assumes no liability resulting from its use. Additionally, we make no warranty with respect to any information published on this sheet, either stated or implied.