

Material Safety Data Sheet

SECTION I

PRODUCT NAME OR NUMBER (AS IT APPEARS ON LABEL):

AR 060/AR 062 Manganese Dioxide

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Stevensville, MI 49127

MANUFACTURER'S DUNNS NO. 08 383 8045

HAZARDOUS MATERIAL DESCRIPTION, PROPER SHIPPING NAME, HAZARD CLASSES, HAZARD ID
NO: NOT REGULATED

CHEMICAL FAMILY: Manganese dioxide

FORMULA: MnO2

SECTION II - INGREDIENTS (LIST ALL INGREDIENTS)

| CAS NO. | %W | CHEMICAL NAMES | OSHA PEL (mg/m3) | ACGIH TLV (mg/m3) |
|-----------|-----|-------------------|---------------------|------------------------|
| 1313-13-9 | >90 | Manganese dioxide | 5 (as Mn) | 0.2 (As Mn) |
| 1332-58-7 | <10 | Kaolin | Not Given | 10 (total) 5 (resp) |

SECTION III - PHYSICAL DATA

Boiling point: decomposes SPECIFIC GRAVITY = 5
% Volatile by volume: N/A
Vapor pressure: N/A
Percent solid(s) by weight % = 100
Vapor density (air = 1): N/A
Evaporation rate: N/A
Solubility in water: insoluble
pH: N/A
Melting point: 535 C
Odor: None
Appearance and odor: Black granules; no odor

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash point: N/A
Flammable limits: LEL: N/A UEL: N/A
Extinguishing media: use extinguishing agent appropriate for surrounding fire

Special fire fighting procedures: Material is not flammable, but may increase the intensity of a fire involving other materials. Wear self contained breathing apparatus with full face mask and full protective clothing. Evacuate all unnecessary people from the fire area and smoke.

Unusual fire and explosion hazards: Intense heat releases Oxygen, which may increase the intensity of a fire.

SECTION V HEALTH HAZARD DATA

Emergency Overview: Caution! Material acts as an oxidizer. Material will not burn in a fire by may increase the intensity of the fire.

Permissible exposure limit: 5 mg/m³ as Manganese

Effects of overexposure: Repeated inhalation of dust or fumes may cause delayed injury to the central nervous system and kidneys. Continued long-term overexposure to kaolin may affect respiratory function in some individuals.

Primary routes of entry:

Inhalation: Irritation of the nose throat and lungs. Breathing large quantities of dust can cause "metal fume fever"

Skin: Abrasive, irritating

Eyes: Abrasive, irritating

Ingestion: Similar to those for inhalation

Carcinogenicity: None

Emergency and first aid procedures:

Ingestion: Give 3-4 glasses of water, but DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

Skin contact: Flush skin with water and then wash thoroughly with soap or mild detergent and water.

Eye contact: Flush eyes with plenty of water for at least 15 minutes. Call a physician.

SECTION VI REACTIVITY DATA

Stability: stable at ordinary temperatures and pressures

Incompatibility: Organic materials, combustible materials, chlorates, aluminum powder, sulfur or other oxidizable materials. Avoid intense heat.

Hazardous decomposition products: None. When subjected to intense heat, temperature above 535 C, it will release oxygen which would increase intensity of a fire.

Hazardous polymerizations: N/A

SECTION VII SPILL OR LEAK PROCEDURE

Soil Release: Shovel up or vacuum up using vacuum cleaner with an efficient filter. Dispose of waste at an industrial waste site.

Water Spill: Dredge up and dispose of waste at an industrial waste site.

Air Release: When material has settled, handle as for soil release or water spill.

Occupational Spill: Handle as outlined above for Soil Release or Water Spill. Do not flush into drains, sewers or other water runoff.

Waste disposal: Comply with state, federal, and local regulations.

SECTION VIII REGULATORY INFORMATION

TSCA: On Toxic Substance Control Inventory.
CERCLA N/A
SARA Section 302: None
SARA Section 311/312: Acute, Chronic, Fire
SARA 313: Manganese Compounds (Category Code N458)
RCRA hazardous waste number(s): N/A

SECTION IX SPECIAL PROTECTION

Handling: Avoid breath dust. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep dry - corrosive when wet.
Storage: keep container close. Store in a cool dry place.
Engineering Controls: Use local exhaust ventilation techniques to meet exposure limits.
Respiratory Protection: For exposure exceeding the TWA for Manganese, use NIOSH/MSHA approved dust mask that has been selected by a technically qualified person.
Skin and hand protection: Wear gloves that will not allow the product to penetrate
Eye and face protection: Face Shield, safety glasses or vented safety goggles. Ensure that an eye wash fountain is in the immediate work area.
Other Protective Equipment: Wear easily washable clothing. Change daily. Wash clothing before reuse.

SECTION X SUPPLEMENTAL INFORMATION

Toxicity information:

LdLo 45 mg/kg intravenously - rabbit. LD50 422 mg/kg subcutaneous - mouse.
Long term exposure to high concentrations of manganese dioxide dust may lead to manganism, a disease of the central nervous system. When female mice were exposed to manganese dioxide dust, both before and during pregnancy, their offspring demonstrated reduction in adult weight, balance and coordination.

Caution: this product causes irritation of the eyes, nose, throat and skin.
Long term breathing of the dust may affect the central nervous system, liver and kidneys.

HEALTH INDEX: (0-4, 4=EXTREME)
HEALTH: 1 FIRE: 0 REACTIVITY: 1

The data and information as stated was furnished by the manufacturer/vendor &/or supplier of this product. Alpha Resources, Inc. cannot warrant the accuracy of this information and shall not be responsible or liable for any damage that may result, should any of the information be erroneous.

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