

Manganese Dioxide

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Control No.
Date

MATERIAL SAFETY DATA SHEET

SECTION I

PRODUCT IDENTIFICATION

CAT. NO. M3138 CAS NO. 1313-13-9
NAME: Manganese Dioxide OTHER NAME: Ozone Treatment Catalyst
MOLECULAR WEIGHT: CHEMICAL FORMULA: MnO₂

SECTION II

HAZARDS IDENTIFICATION

Oxidizing. Harmful. Contact with combustible material may cause fire. Harmful by inhalation and in contact with skin. Irritating to eyes and skin. Target organ(s): Central nervous system, Lungs. Keep away from combustible material. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

SECTION III

FIRST-AID MEASURES

If swallowed, wash out mouth with water provided person is conscious, call a physician. If inhaled, remove to fresh air. If breathing becomes difficult, call a physician. In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician. In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers, call a physician.

SECTION IV

FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA Carbon dioxide, dry chemical powder or appropriate foam
SPECIAL FIREFIGHTING PROCEDURES Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS Emits toxic fumes under fire conditions. Contact with other material may cause fire. May accelerate combustion.

SECTION V

ACCIDENTAL RELEASE MEASURES

Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete. Evacuate area.

SECTION VI

EXPOSURE CONTROLS/PERSONAL PROTECTION

Do not store near, nor allow contact with, clothing and other combustible material. Use only in a chemical fume hood. Safety shower and eye bath. Wash thoroughly after handling. Remove and wash contaminated clothing promptly. Discard contaminated shoes. Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. NIOSH/MSHA-approved respirator. Compatible chemical-resistant gloves. Chemical safety goggles. Keep away from combustible materials, heat, sparks, and open flame. Keep tightly closed. Store in a cool dry place.

SECTION VII

PHYSICAL AND CHEMICAL PROPERTIES

MELTING POINT: 535 °C SPECIFIC GRAVITY: 5.026

SECTION VIII

STABILITY AND REACTIVITY

STABILITY Stable Hazardous polymerization will not occur.
INCOMPATIBILITIES organic materials, finely powdered metals
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS Carbon monoxide, Carbon dioxide

SECTION IX

TOXICOLOGICAL INFORMATION

ACUTE EFFECTS: Men exposed to manganese dusts showed a decrease in fertility. Early symptoms include languor, sleepiness and weakness in the legs, a stolid mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with tendency to fall in walking are findings in more advanced cases. High incidence of pneumonia has been found in workers exposed to the dust or fume of some manganese compounds. Harmful if inhaled or absorbed through skin. Causes eye and skin irritation. Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if swallowed.

CHRONIC EFFECTS:

| RTECS # | Target Organ(s) | SCU-MUS LD50 | ORL-RAT LD50 |
|-----------|-----------------|--------------|--------------|
| OP0350000 | Nerves, lungs | 422 MG/KG | >3478 MG/KG |

SECTION X

SPECIAL PRECAUTIONS AND COMMENTS

The above information is believed to be correct but does not purport to be all inclusive. It shall serve only as a guide. Shimadzu shall not be held liable for any damage resulting from handling or contact with the above product. Users should make their own determinations regarding the suitability of this information for their particular purposes.