

# Material Safety Data Sheet



## Manganese (IV) Oxide

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**Carolina Biological Supply Company**

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**CAROLINA**  
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### Section 1 - Product Description

**Product Name:** Manganese Dioxide  
**Product Code(s):** 87-3790, 87-3792, 87-3800  
**Size:** 500 g, 2 kg  
**Chemical Name:** Manganese Dioxide  
**CAS Number:** 1313-13-9  
**Formula:** MnO<sub>2</sub>  
**Synonyms:** N/A  
**Distributor:** Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F) Chemtrec 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 - Hazard Identification

**Emergency Overview:** **WARNING** - Product is a strong oxidizer. Harmful by inhalation and if swallowed. Irritating to eyes and skin.

**Potential Health Effects:**

**Eyes:** May cause irritation.

**Skin:** May cause irritation to skin.

**Ingestion:** May cause gastrointestinal discomfort.

**Inhalation:** May cause irritation to respiratory tract.

### Section 3 - Composition / Information on Ingredients

**Principal Hazardous Components:** Manganese Dioxide (CAS # 1313-13-9) 99%  
**TLV units:** ACGIH-TLV: 0.2 mg/m<sup>3</sup> (TWA)  
**PEL units:** OSHA-PEL: 5 mg/m<sup>3</sup> (TWA)

### Section 4 - First Aid Measures

**Emergency and First Aid Procedures:**

**Eyes** - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin** - After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

**Ingestion** - If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

**Inhalation** - In case of accident by inhalation: remove casualty to fresh air and keep at rest.

### Section 5 - Firefighting Procedures

**Flash Point (Method Used):** N/A

**NFPA Rating:**

**Health:** 1

**Fire:** 1

**Reactivity:** 2

**Extinguisher Media:** Use dry chemical, CO2 or appropriate foam.

**Flammable Limits in Air % by Volume:** N/A

**Autoignition Temperature:** N/A

**Special Firefighting Procedures:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

**Unusual Fire and Explosion Hazards:** Product is a strong oxidizer.

## Section 6 - Spill or Leak Procedures

**Steps to Take in Case Material Is Released or Spilled:** Ventilate area of spill. Clean-up personnel should wear proper protective equipment. Avoid creating dust. Sweep or scoop up and containerize for disposal.

## Section 7 - Special Precautions

**Precautions to Take in Handling or Storing:** Keep container tightly closed in a cool, well-ventilated place.

Keep away from sources of ignition - No smoking.

Store separately and away from flammable and combustible materials. Store in a secure area suitable for oxidizing agents.

Store away from flammable materials, organic solvents and combustible materials.

## Section 8 - Protection Information

**Respiratory Protection (Specify Type):** None needed under normal conditions of use with adequate ventilation. A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.

**Ventilation:**

**Local Exhaust:** Yes

**Mechanical(General):** Yes

**Special:** No

**Other:** No

**Protective Gloves:** Natural rubber, Neoprene, PVC or equivalent.

**Eye Protection:** Splash proof chemical safety goggles should be worn.

**Other Protective Clothing or Equipment:** Lab coat, apron, eye wash, safety shower.

## Section 9 - Physical Data

**Molecular Weight:** 86.94

**Boiling Point:** N/A

**Vapor Density(Air=1):** N/A

**Percent Volatile by Volume:** 0% at 21 °C

**Solubility in Water:** Practically Insoluble

**Melting Point:** 535 °C

**Vapor Pressure:** N/A

**Specific Gravity (H2O=1):** 5.0

**Evaporation Rate (BuAc=1):** N/A

**Appearance and Odor:** Odorless black solid.

## Section 10 - Reactivity Data

**Stability:** Stable

**Conditions to Avoid:** Heat and sources of ignition.

**Incompatibility (Materials to Avoid):** Organics, Acids, Reducing agents,

**Hazardous Decomposition Products:** Metal Fumes,

**Hazardous Polymerization:** Will not occur

## Section 11 - Toxicity Data

**Toxicity Data:** orl-rat LD50 3478 mg/kg

**Effects of Overexposure:**

**Acute:** See Section 2

**Chronic:** Reproductive data cited. Not listed as a carcinogen by IARC, NTP or OSHA.

**Conditions Aggravated by Overexposure:** Respiratory disorders Central Nervous System Disorders Gastrointestinal,

**Target Organs:** Respiratory system Central Nervous System Kidneys Blood

**Primary Route(s) of Entry:** Inhalation, ingestion, eye or skin contact.

## Section 12 - Ecological Data

EPA Waste Numbers: N/A

## Section 13 - Disposal Information

**Waste Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

## Section 14 - Transport Information

**DOT Proper Shipping Name:** Not Regulated for Transport

## Section 15 - Regulatory Information

**EPA TSCA Status:** On TSCA Inventory

**Hazard Category for SARA Section 311/312 Reporting:** Acute Chronic

**Name List:**

No

**Chemical Category:**

Yes

**CERCLA Section 103 RQ(lb.):** Yes

**RCRA Section 261.33:** No

## Section 16 - Additional Information

The information provided in this Material Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the Material Safety Data Sheet. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

### Glossary

ACGIH	American Conference of Governmental Industrial Hygienists
CAS Number	Chemical Services Abstract Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency of Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act