

# Material Safety Data Sheet (MSDS): Glass Grade Manganese Dioxide

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## Section 1: Identification

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**Product Name:** Glass Grade Manganese Dioxide as a Decolorizing Agent **Synonyms:** Manganese(IV) oxide, Pyrolusite, Black manganese oxide **Chemical Formula:** MnO<sub>2</sub>  
**CAS No.:** 1313-13-9 **EC No.:** 215-202-6

**Supplier Details:** **Company Name:** BTLnewmaterial **Address:** Room 706, No. 154, Wuyi East Road, Niezhou Residential Committee, Caizichi Sub-district Office, Leiyang City, Hengyang City, Hunan Province, China **Email:** lixifirm@outlook.com  
**Phone/WhatsApp:** +8618273793022 **Website:** manganesesupply.com

**Recommended Use:** Decolorizing agent in glass manufacturing. **Restrictions on Use:** Not for food or pharmaceutical use without specific approval.

## Section 2: Hazard(s) Identification

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### GHS Classification (Globally Harmonized System):

- **Acute Toxicity (Oral):** Category 4 [1]
- **Specific Target Organ Toxicity - Repeated Exposure:** Category 2 (Central Nervous System, Lungs) [1]

### Hazard Pictograms:

- GHS07 (Exclamation Mark) - Harmful if swallowed
- GHS08 (Health Hazard) - May cause damage to organs through prolonged or repeated exposure

**Signal Word:** Warning

### Hazard Statements:

- H302: Harmful if swallowed.
- H373: May cause damage to organs (Central Nervous System, Lungs) through prolonged or repeated exposure.

### Precautionary Statements:

- **Prevention:**
  - P260: Do not breathe dust/fume/gas/mist/vapors/spray.
  - P264: Wash thoroughly after handling.
  - P270: Do not eat, drink or smoke when using this product.
- **Response:**
  - P301 + P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  - P330: Rinse mouth.
  - P314: Get medical advice/attention if you feel unwell.
- **Disposal:**
  - P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

## Section 3: Composition/Information on Ingredients

Chemical Name	CAS No.	EC No.	Concentration (%)
Manganese Dioxide	1313-13-9	215-202-6	88 - 92
Iron (as Fe)	7439-89-6	231-096-4	≤ 0.20
Silicon Dioxide (as SiO <sub>2</sub> )	7631-86-9	231-545-4	≤ 2.0
Water (as Moisture)	7732-18-5	231-791-2	≤ 2.0

*Note: The primary component is Manganese Dioxide. Other components are present as impurities or moisture.*

## Section 4: First-Aid Measures

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**General Advice:** Consult a physician. Show this safety data sheet to the doctor in attendance.

**If Inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In Case of Skin Contact:** Wash off with soap and plenty of water. Consult a physician.

**In Case of Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If Swallowed:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Most Important Symptoms and Effects, Both Acute and Delayed:** The most important known symptoms and effects are described in the labelling (Section 2) and/or in Section 11.

**Indication of Any Immediate Medical Attention and Special Treatment Needed:** No data available.

## Section 5: Fire-Fighting Measures

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**Extinguishing Media:**

- **Suitable Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Specific Hazards Arising from the Chemical:** Manganese/manganese oxides.

**Special Protective Equipment and Precautions for Firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

## Section 6: Accidental Release Measures

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**Personal Precautions, Protective Equipment and Emergency Procedures:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or

gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

**Environmental Precautions:** Do not let product enter drains.

**Methods and Materials for Containment and Cleaning Up:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## Section 7: Handling and Storage

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**Precautions for Safe Handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.

**Conditions for Safe Storage, Including Any Incompatibilities:** Keep container tightly closed in a dry and well-ventilated place. Store away from strong acids, strong reducing agents, and combustible materials.

## Section 8: Exposure Controls/Personal Protection

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### Control Parameters:

Component	CAS No.	Value	Control Parameters	Basis
Manganese Dioxide	1313-13-9	TWA	0.02 mg/m <sup>3</sup> (respirable fraction)	ACGIH TLV (USA)
		TWA	0.1 mg/m <sup>3</sup> (inhalable fraction)	ACGIH TLV (USA)
		PEL	5 mg/m <sup>3</sup> (ceiling)	OSHA PEL (USA)

### Exposure Controls:

**Appropriate Engineering Controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal Protective Equipment (PPE):

- **Eye/Face Protection:** Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- **Skin Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
- **Body Protection:** Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- **Respiratory Protection:** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## Section 9: Physical and Chemical Properties

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**Appearance:** Black powder **Odor:** Odorless **Odor Threshold:** Not applicable **pH:** 6.0 - 8.0 (10% slurry) [2] **Melting Point/Freezing Point:** ~535 °C (decomposes) [2] **Initial Boiling Point and Boiling Range:** Not applicable (decomposes before boiling) **Flash Point:** Not applicable **Evaporation Rate:** Not applicable **Flammability (solid, gas):** Non-flammable **Upper/Lower Flammability or Explosive Limits:** Not applicable **Vapor Pressure:** Not applicable **Vapor Density:** Not applicable **Relative Density:** 5.02 g/cm<sup>3</sup> (at 20 °C) [2] **Water Solubility:** Insoluble **Partition Coefficient n-octanol/water (log Kow):** Not applicable **Auto-ignition Temperature:** Not applicable **Decomposition Temperature:** ~535 °C **Viscosity:** Not applicable (solid)

**Additional Information from Webpage:**

Parameter	Typical Range
MnO <sub>2</sub> Content (%)	88 – 92
Mn (Total) (%)	55 – 63
Fe (%)	≤ 0.20
SiO <sub>2</sub> (%)	≤ 2.0
Moisture (%)	≤ 2.0
Particle Size (D50)	10 – 45 μm (customizable)
Bulk Density (g/cm <sup>3</sup> )	0.8 – 1.2
Loss on Ignition (800°C) (%)	≤ 5.0

## Section 10: Stability and Reactivity

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**Reactivity:** No data available.

**Chemical Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** No data available.

**Conditions to Avoid:** Heat, incompatible materials.

**Incompatible Materials:** Strong acids, strong reducing agents, combustible materials.

**Hazardous Decomposition Products:** Other decomposition products - No data available. In the event of fire: see section 5.

## Section 11: Toxicological Information

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**Acute Toxicity:**

- **Oral LD50:** > 3478 mg/kg (Rat) [1]
- **Inhalation LC50:** No data available.
- **Dermal LD50:** No data available.

**Skin Corrosion/Irritation:** No data available.

**Serious Eye Damage/Eye Irritation:** No data available.

**Respiratory or Skin Sensitization:** No data available.

**Germ Cell Mutagenicity:** No data available.

**Carcinogenicity:**

- IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive Toxicity:** No data available.

**Specific Target Organ Toxicity - Single Exposure:** No data available.

**Specific Target Organ Toxicity - Repeated Exposure:** May cause damage to organs (Central Nervous System, Lungs) through prolonged or repeated exposure [1]. Chronic exposure to manganese compounds can lead to manganism, a neurological disorder.

**Aspiration Hazard:** No data available.

**Additional Information:**

- RTECS: 007200000
- To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## Section 12: Ecological Information

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**Toxicity:**

- **Toxicity to fish:** LC50 - *Oncorhynchus mykiss* (rainbow trout) - 2.8 mg/l - 96 h [1]
- **Toxicity to daphnia and other aquatic invertebrates:** EC50 - *Daphnia magna* (Water flea) - 23 mg/l - 48 h [1]

**Persistence and Degradability:** No data available.

**Bioaccumulative Potential:** No data available.

**Mobility in Soil:** No data available.

**Other Adverse Effects:** No data available.

## Section 13: Disposal Considerations

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### Waste Treatment Methods:

- **Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
- **Contaminated Packaging:** Dispose of as unused product.

## Section 14: Transport Information

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**DOT (US):** Not regulated as a hazardous material.

**IMDG:** Not regulated as a hazardous material.

**IATA:** Not regulated as a hazardous material.

## Section 15: Regulatory Information

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### US Federal Regulations:

- **SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- **SARA 313 Components:** The following components are subject to reporting levels established by SARA Title III, Section 313:
  - Manganese compounds (Category N450) - CAS No. 7439-96-5 (Manganese, elemental and compounds)
- **SARA <sup>311</sup>/<sub>312</sub> Hazards:** Acute Health Hazard, Chronic Health Hazard.

### US State Regulations:

- **Massachusetts Right To Know Components:** No components are subject to the Massachusetts Right to Know Act.

- **Pennsylvania Right To Know Components:** Manganese Dioxide (CAS No. 1313-13-9)
- **New Jersey Right To Know Components:** Manganese Dioxide (CAS No. 1313-13-9)
- **California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## Section 16: Other Information

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**Date of Preparation:** February 16, 2026

**Disclaimer:** The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall BTLnewmaterial be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if BTLnewmaterial has been advised of the possibility of such damages.

**References:** [1] Sigma-Aldrich. (n.d.). *Manganese(IV) oxide*. Retrieved from <https://www.sigmaaldrich.com/US/en/product/aldrich/230464> [2] PubChem. (n.d.). *Manganese Dioxide*. Retrieved from <https://pubchem.ncbi.nlm.nih.gov/compound/Manganese-Dioxide>