

Safety Data Sheet (SDS)

Product Name: Manganese Dioxide (Manganese(IV) Oxide)

Version: 1.0

Issue Date: March 2, 2026

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

- **Product Name:** Manganese Dioxide for Heat-Absorbing Architectural Glass
- **Chemical Name:** Manganese(IV) Oxide
- **CAS No.:** 1313-13-9
- **EC No.:** 215-202-6

1.2 Relevant Identified Uses

Used in heat-absorbing architectural glass, solar control glass, and as an oxidizing agent in glass manufacturing.

1.3 Details of the Supplier

- **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

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

- **Acute Toxicity, Oral (Category 4):** H302
- **Acute Toxicity, Inhalation (Category 4):** H332
- **Specific Target Organ Toxicity - Repeated Exposure (Category 2):** H373
(Brain/Central Nervous System)

2.2 GHS Label Elements

- **Signal Word:** Warning
 - **Hazard Pictograms:** GHS07 (Exclamation mark), GHS08 (Health hazard)
 - **Hazard Statements:**
 - H302 + H332: Harmful if swallowed or if inhaled.
 - H373: May cause damage to organs (Brain) through prolonged or repeated exposure if inhaled.
 - **Precautionary Statements:**
 - P260: Do not breathe dust/fume/gas/mist/vapours/spray.
 - P264: Wash skin thoroughly after handling.
 - P270: Do not eat, drink or smoke when using this product.
 - P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
 - P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	EC No.	Concentration (w/w)
Manganese Dioxide (MnO ₂)	1313-13-9	215-202-6	≥ 99.5%
Iron (Fe)	7439-89-6	231-096-4	≤ 0.05%

SECTION 4: FIRST AID MEASURES

- **Inhalation:** Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
 - **Skin Contact:** Wash off with soap and plenty of water. Consult a physician.
 - **Eye Contact:** Flush eyes with water as a precaution.
 - **Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
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SECTION 5: FIREFIGHTING MEASURES

- **Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
 - **Special Hazards:** Manganese/manganese oxides. Manganese dioxide is a strong oxidizer; contact with other material may cause fire.
 - **Advice for Firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.
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SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

- **Environmental Precautions:** Do not let product enter drains.
 - **Cleanup Methods:** Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
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SECTION 7: HANDLING AND STORAGE

- **Handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.
 - **Storage:** Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Keep away from combustible materials.
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Control Parameters:** TWA: 0.2 mg/m³ (as Mn).
 - **Engineering Controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
 - **Personal Protection:**
 - **Eye/Face:** Safety glasses with side-shields.
 - **Skin:** Handle with gloves.
 - **Body:** Protective clothing.
 - **Respiratory:** Wear dust mask or respirator with P95 (US) or P1 (EU EN 143) particle filter.
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** Black or dark brown powder
- **Odour:** Odourless
- **pH:** 6.5 – 8.0 (aqueous slurry)

- **Melting Point:** 535 °C (decomposes)
 - **Bulk Density:** 0.8 – 1.2 g/cm³
 - **Solubility:** Insoluble in water
 - **MnO₂ Assay:** ≥ 99.5%
 - **Particle Size (D₅₀):** 5 – 15 μm
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SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** Strong oxidizer.
 - **Chemical Stability:** Stable under recommended storage conditions.
 - **Possibility of Hazardous Reactions:** Risk of explosion with: Hydrogen sulfide, organic substances, combustible substances, aluminum.
 - **Incompatible Materials:** Strong acids, strong reducing agents, organic materials.
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SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute Toxicity:** LD50 Oral - Rat - > 3,478 mg/kg.
 - **Inhalation:** Harmful if inhaled.
 - **Chronic Toxicity:** Chronic exposure to manganese can lead to “manganism,” a condition with symptoms similar to Parkinson’s disease.
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SECTION 12: ECOLOGICAL INFORMATION

- **Toxicity:** Not classified as environmentally hazardous.
 - **Persistence and Degradability:** Not applicable for inorganic substances.
 - **Bioaccumulative Potential:** No data available.
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SECTION 13: DISPOSAL CONSIDERATIONS

- **Product:** Offer surplus and non-recyclable solutions to a licensed disposal company.
 - **Contaminated Packaging:** Dispose of as unused product.
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SECTION 14: TRANSPORT INFORMATION

- **DOT (US):** Not dangerous goods.
 - **IMDG:** Not dangerous goods.
 - **IATA:** Not dangerous goods.
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SECTION 15: REGULATORY INFORMATION

- **SARA 313 Components:** Manganese dioxide (CAS 1313-13-9) is subject to reporting levels established by SARA Title III, Section 313.
 - **TSCA:** Listed on the TSCA inventory.
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SECTION 16: OTHER INFORMATION

- **Disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. BTLnewmaterial shall not be held liable for any damage resulting from handling or from contact with the above product.