

Safety Data Sheet (SDS)

According to GHS (Globally Harmonized System of Classification and Labelling of Chemicals)

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Identifier

- **Product Name:** Dispersible MnO₂ Powder for Epoxy Resin Systems
- **Chemical Name:** Manganese Dioxide
- **CAS No.:** 1313-13-9

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

- **Identified Uses:** Catalytic filler for epoxy resin systems, flame-retardant additive, electronic encapsulation, and industrial coatings.

1.3 Details of the Supplier of the Safety Data Sheet

- **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

1.4 Emergency Telephone Number

- **Emergency Phone:** +8618273793022 (Available during business hours)
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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 through inhalation)

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/vapors/spray.
 - P264: Wash hands thoroughly after handling.
 - P270: Do not eat, drink or smoke when using this product.
 - P271: Use only outdoors or in a well-ventilated area.
 - P301 + P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 - P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - P314: Get medical advice/attention if you feel unwell.

2.3 Other Hazards

- Dust may cause mechanical irritation to eyes and respiratory tract.
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Section 3: Composition/Information on Ingredients

Component	CAS No.	Concentration (%)	GHS Classification
Manganese Dioxide (MnO ₂)	1313-13-9	90% – 95%	Acute Tox. 4; STOT RE 2
Inert Fillers/Moisture	N/A	5% – 10%	Not classified

Section 4: First Aid Measures

4.1 Description of First Aid Measures

- **Inhalation:** Remove person to fresh air. If breathing is difficult, give oxygen. Seek medical attention if symptoms persist.
- **Skin Contact:** Wash with soap and water. Remove contaminated clothing.
- **Eye Contact:** Flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids. Seek medical attention if irritation develops.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

- Chronic exposure to manganese dust can lead to “manganism,” a neurological condition similar to Parkinson’s disease.
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Section 5: Firefighting Measures

5.1 Extinguishing Media

- Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2 Special Hazards Arising from the Substance or Mixture

- Manganese oxides. MnO₂ is an oxidizer and may increase the intensity of a fire involving combustible materials.

5.3 Advice for Firefighters

- Wear self-contained breathing apparatus and full protective clothing.
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Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation.

6.2 Environmental Precautions

- Do not let product enter drains.

6.3 Methods and Materials for Containment and Cleaning Up

- Sweep up and shovel. Keep in suitable, closed containers for disposal. Avoid raising dust.
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Section 7: Handling and Storage

7.1 Precautions for Safe Handling

- Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with skin and eyes.

7.2 Conditions for Safe Storage, Including any Incompatibilities

- Store in a cool, dry place. Keep container tightly closed in a well-ventilated place. Keep away from strong reducing agents and strong acids.
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Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- TWA (Manganese compounds, as Mn): 0.2 mg/m³ (ACGIH)

8.2 Exposure Controls

- **Engineering Controls:** Use process enclosures or local exhaust ventilation.
 - **Eye Protection:** Safety glasses with side-shields.
 - **Skin Protection:** Handle with gloves. Use proper glove removal technique.
 - **Body Protection:** Complete suit protecting against chemicals.
 - **Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate, use a full-face particle respirator type N100 (US) or type P3 (EN 143).
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Section 9: Physical and Chemical Properties

- **Physical State:** Fine powder
 - **Color:** Black or dark brown
 - **Odor:** Odorless
 - **pH:** Neutral (in aqueous slurry)
 - **Melting Point:** 535 °C (decomposes)
 - **Boiling Point:** N/A
 - **Flash Point:** N/A
 - **Density:** 5.026 g/cm³ (Theoretical); Bulk Density: 0.5–0.8 g/cm³
 - **Solubility:** Insoluble in water
 - **MnO₂ Purity:** 90–95%
 - **Particle Size (D50):** 1–5 µm
 - **Specific Surface Area:** 80–180 m²/g
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Section 10: Stability and Reactivity

10.1 Reactivity: Stable under recommended storage conditions. **10.2 Chemical Stability:** Stable under normal conditions. **10.3 Possibility of Hazardous Reactions:** Strong oxidizer; reacts with reducing agents. **10.4 Conditions to Avoid:** Avoid

moisture and high temperatures. **10.5 Incompatible Materials:** Strong acids, strong reducing agents, organic materials. **10.6 Hazardous Decomposition Products:** Manganese oxides.

Section 11: Toxicological Information

- **Acute Oral Toxicity:** LD50 (Rat) > 3478 mg/kg (estimated for pure MnO₂).
 - **Inhalation:** Harmful if inhaled.
 - **Skin/Eye Irritation:** May cause mild irritation.
 - **Chronic Toxicity:** Prolonged inhalation of manganese dust may cause central nervous system damage.
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Section 12: Ecological Information

- **Toxicity:** No data available.
 - **Persistence and Degradability:** Inorganic substance, not biodegradable.
 - **Bioaccumulative Potential:** No data available.
 - **Mobility in Soil:** Insoluble in water; low mobility.
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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.
 - *(Note: MnO₂ is not typically regulated as a hazardous material for transport unless it meets specific oxidizer criteria or is in a specific form.)*
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Section 15: Regulatory Information

- **TSCA:** Listed.
 - **SARA 313:** Manganese compounds are subject to reporting requirements.
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Section 16: Other Information

- **Revision Date:** March 13, 2026
- **Prepared By:** BTLnewmaterial Technical Department
- **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.