

Safety Data Sheet (SDS)

According to GHS Standard (16 Sections)

Section 1: Identification

- **Product Name:** Metallurgical Grade MnO for Low-Carbon Manganese Steel Production
- **Product Use:** Alloying and refining agent in steelmaking and ferroalloy production.
- **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:** +86 18273793022
- **Website:** manganesesupply.com
- **Emergency Phone:** +86 18273793022

Section 2: Hazard Identification

- **GHS Classification:**
 - Acute Toxicity, Oral (Category 4)
 - Acute Toxicity, Inhalation (Category 4)
 - Specific Target Organ Toxicity - Repeated Exposure (Category 2) (Brain, Central Nervous System)
- **GHS Label Elements:**
 - **Signal Word:** Warning
 - **Hazard Pictograms:** Exclamation Mark, Health Hazard
 - **Hazard Statements:**

- H302: Harmful if swallowed.
 - H332: Harmful if inhaled.
 - H373: May cause damage to organs (Brain, CNS) through prolonged or repeated exposure.
- **Precautionary Statements:**
 - P260: Do not breathe dust/fume/gas/mist/vapors/spray.
 - P264: Wash skin 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 or doctor/physician if you feel unwell.
 - P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - P314: Get medical advice/attention if you feel unwell.
 - P501: Dispose of contents/container to an approved waste disposal plant.

Section 3: Composition/Information on Ingredients

| Chemical Name | CAS Number | Concentration (%) |
|-----------------------------------------|-----------------------|-------------------|
| Manganese Oxide (MnO/MnO ₂) | 1344-43-0 / 1313-13-9 | ≥ 60% (as Mn) |
| Inert Metallurgical Components | Proprietary | Balance |
| Arsenic (As) | 7440-38-2 | ≤ 5 ppm |
| Lead (Pb) | 7439-92-1 | ≤ 10 ppm |
| Cadmium (Cd) | 7440-43-9 | ≤ 5 ppm |

Section 4: First-Aid Measures

- **Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. Get medical attention if symptoms persist.

- **Skin Contact:** Wash with soap and water. Get medical attention if irritation develops.
- **Eye Contact:** Flush eyes with water for at least 15 minutes. Get medical attention if irritation persists.
- **Ingestion:** Rinse mouth. Do NOT induce vomiting. Get medical attention immediately.
- **Most Important Symptoms:** Inhalation of dust may cause respiratory irritation. Chronic exposure to manganese may affect the central nervous system (Manganism).

Section 5: Fire-Fighting Measures

- **Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
- **Special Hazards:** Not flammable. May emit toxic fumes of manganese oxides under fire conditions.
- **Protective Equipment:** Wear self-contained breathing apparatus and full protective clothing.

Section 6: Accidental Release Measures

- **Personal Precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing dust.
- **Environmental Precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
- **Methods for 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

- **Handling:** Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

- **Storage:** Store in a cool, dry, well-ventilated place. Keep container tightly closed. Store away from moisture and incompatible materials.

Section 8: Exposure Controls/Personal Protection

- **Exposure Limits:**
 - Manganese (as Mn): ACGIH TLV: 0.02 mg/m³ (respirable fraction); 0.1 mg/m³ (inhalable fraction).
- **Engineering Controls:** Use local exhaust ventilation or other engineering controls to maintain airborne levels below exposure limits.
- **Personal Protective Equipment:**
 - **Respiratory:** Use N95 or higher rated dust mask.
 - **Hands:** Wear protective gloves (nitrile or latex).
 - **Eyes:** Wear safety goggles.
 - **Skin:** Wear long-sleeved work clothing.

Section 9: Physical and Chemical Properties

- **Physical State:** Solid (Granular/Powder)
- **Appearance:** Dark Brown to Black
- **Odor:** Odorless
- **pH:** Neutral (in aqueous slurry)
- **Melting Point:** ~1,564°C (2,847°F)
- **Boiling Point:** No data available
- **Flash Point:** Not applicable
- **Density:** 2.0 - 2.5 g/cm³ (Bulk)
- **Solubility:** Insoluble in water
- **Partition Coefficient:** No data available
- **Auto-ignition Temp:** Not applicable
- **Decomposition Temp:** No data available

- **Viscosity:** Not applicable

Section 10: Stability and Reactivity

- **Reactivity:** Stable under recommended storage conditions.
- **Chemical Stability:** Stable under normal temperatures and pressures.
- **Possibility of Hazardous Reactions:** No data available.
- **Conditions to Avoid:** Moisture, dust generation.
- **Incompatible Materials:** Strong oxidizing agents, strong acids.
- **Hazardous Decomposition Products:** Manganese oxides.

Section 11: Toxicological Information

- **Acute Toxicity:** Harmful if swallowed or inhaled.
- **Skin Corrosion/Irritation:** May cause mild skin irritation.
- **Serious Eye Damage/Irritation:** May cause mild eye irritation.
- **Respiratory or Skin Sensitization:** No data available.
- **Germ Cell Mutagenicity:** No data available.
- **Carcinogenicity:** Not classified as a carcinogen by IARC, ACGIH, NTP, or OSHA.
- **Reproductive Toxicity:** No data available.
- **STOT - Single Exposure:** May cause respiratory irritation.
- **STOT - Repeated Exposure:** May cause damage to the central nervous system through prolonged or repeated inhalation of dust.

Section 12: Ecological Information

- **Toxicity:** No data available.
- **Persistence and Degradability:** Not readily biodegradable (inorganic).
- **Bioaccumulative Potential:** No data available.
- **Mobility in Soil:** Insoluble in water; expected to have low mobility in soil.

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

Section 13: Disposal Considerations

- **Waste Disposal:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- **Contaminated Packaging:** Dispose of as unused product.

Section 14: Transport Information

- **DOT (US):** Not dangerous goods.
- **IMDG:** Not dangerous goods.
- **IATA:** Not dangerous goods.
- **UN Number:** Not applicable.
- **Proper Shipping Name:** Not applicable.

Section 15: Regulatory Information

- **SARA 313 Components:** Manganese compounds are subject to reporting levels established by SARA Title III, Section 313.
- **TSCA Inventory:** All components are listed or exempt.
- **California Prop 65:** This product contains trace amounts of Lead and Cadmium, known to the State of California to cause cancer and birth defects.

Section 16: Other Information

- **Revision Date:** March 24, 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

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