

Safety Data Sheet (SDS)

Product Name: Metallurgical Grade Manganese Dioxide (MnO₂)

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

1.1 Product Identifier

- **Product Name:** Metallurgical Grade Manganese Dioxide (MnO₂)
- **Chemical Name:** Manganese Dioxide
- **CAS No.:** 1313-13-9
- **EC No.:** 215-202-6

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

- **Identified Uses:** Metallurgical grade for manganese steel production, oxidizing agent, ferroalloy smelting, and thermite welding.
- **Uses Advised Against:** Not for food or drug use.

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
-

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 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: 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.

2.3 Other Hazards

- None known.

Section 3: Composition/Information on Ingredients

Component	CAS No.	Concentration (%)	Classification
Manganese Dioxide (MnO ₂)	1313-13-9	85% – 92%	Acute Tox. 4; STOT RE 2
Impurities/Other Minerals	N/A	Balance	Not Classified

Section 4: First Aid Measures

4.1 Description of First Aid Measures

- **Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **Skin Contact:** Wash off with soap and plenty of water. Consult a physician if irritation develops.
- **Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- **Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

- The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

- No data available.
-

Section 5: Firefighting Measures

5.1 Extinguishing Media

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

5.2 Special Hazards Arising from the Substance or Mixture

- Manganese/manganese oxides. Manganese dioxide is an oxidizer and may increase the intensity of a fire.

5.3 Advice for Firefighters

- Wear self-contained breathing apparatus for firefighting if necessary.
-

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, 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

- Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
-

Section 7: Handling and Storage

7.1 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.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

- Store in a cool, dry place. Keep container tightly closed in a dry and well-ventilated place. Keep away from strong reducing agents and strong acids.
-

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- **Occupational Exposure Limits:** TWA: 0.2 mg/m³ (as Mn) (ACGIH).

8.2 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:**
 - **Eye/Face Protection:** Safety glasses with side-shields.
 - **Skin Protection:** Handle with gloves.
 - **Body Protection:** Complete suit protecting against chemicals.
 - **Respiratory Protection:** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.
-

Section 9: Physical and Chemical Properties

Property	Value
Appearance	Black or dark brown powder/granules
Odor	Odorless
pH	No data available (Typically neutral)
Melting Point	535 °C (Decomposes)
Boiling Point	N/A
Flash Point	N/A
Density	5.026 g/cm ³
Bulk Density	1.8 – 2.3 g/cm ³
Solubility	Insoluble in water
Purity (MnO ₂)	85% – 92%
Particle Size	75 – 300 μm

Section 10: Stability and Reactivity

10.1 Reactivity

- Strong oxidizer.

10.2 Chemical Stability

- Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions

- No data available.

10.4 Conditions to Avoid

- Incompatible materials, dust generation, excess heat.

10.5 Incompatible Materials

- Strong reducing agents, strong acids, organic materials.

10.6 Hazardous Decomposition Products

- Hazardous decomposition products formed under fire conditions: Manganese oxides.
-

Section 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity:** LD50 Oral - Rat - > 3,478 mg/kg.
 - **Skin Corrosion/Irritation:** No data available.
 - **Serious Eye Damage/Irritation:** No data available.
 - **Respiratory or Skin Sensitisation:** 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.
 - **STOT-Repeated Exposure:** May cause damage to organs through prolonged or repeated exposure (Inhalation - Central Nervous System).
-

Section 12: Ecological Information

12.1 Toxicity

- No data available.

12.2 Persistence and Degradability

- The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative Potential

- No data available.

12.4 Mobility in Soil

- No data available.
-

Section 13: Disposal Considerations

13.1 Waste Treatment Methods

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

Section 14: Transport Information

- **DOT (US):** Not dangerous goods.
 - **IMDG:** Not dangerous goods.
 - **IATA:** Not dangerous goods.
-

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

- This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
-

Section 16: Other Information

- **Revision Date:** 2026-03-14
- **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. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. BTLnewmaterial shall not be held liable for any damage resulting from handling or from contact with the above product.