

SAFETY DATA SHEET (SDS/MSDS)

According to GHS (Globally Harmonized System)

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

1.1 Product Identifier

- **Product Name:** Manganese Dioxide for High-Temperature Porcelain Glazes
- **Chemical Name:** Manganese Dioxide (MnO₂)
- **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:** Ceramic coloring oxide, high-temperature porcelain glazes, industrial pigments.
- **Uses Advised Against:** No specific uses advised against.

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
- **Phone/WhatsApp:** +8618273793022
- **Email:** lixifirm@outlook.com
- **Website:** manganesesupply.com

1.4 Emergency Telephone Number

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

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, Including Precautionary Statements

- **Pictogram:**



- **Signal Word:** Warning
- **Hazard Statements:**
 - H302 + H332: Harmful if swallowed or if inhaled.
 - H373: May cause damage to organs (Brain, Central Nervous System) 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.

2.3 Other Hazards

- None known.
-

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	CAS No.	EC No.	Concentration (wt%)
Manganese Dioxide (MnO ₂)	1313-13-9	215-202-6	90.0% – 98.0%
Iron Oxide (Fe ₂ O ₃)	1309-37-1	215-168-2	≤ 0.30%

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

- **General Advice:** Consult a physician. Show this safety data sheet to the doctor in attendance.
- **If Inhaled:** 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:** Flush eyes with water as a precaution.
- **If Swallowed:** 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 a strong oxidizer; contact with other material may cause 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. Evacuate personnel to safe areas. Avoid breathing dust.

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 well-ventilated place. Keep away from heat and sources of ignition. Do not store near combustible materials.
-

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

9.1 Information on Basic Physical and Chemical Properties

- **Appearance:** Black or dark brown powder
- **Odour:** Odourless

- **pH:** No data available
 - **Melting Point:** 535 °C (decomposes)
 - **Initial Boiling Point:** Not applicable
 - **Flash Point:** Not applicable
 - **Evaporation Rate:** No data available
 - **Flammability (solid, gas):** Not flammable
 - **Bulk Density:** 0.8 – 1.1 g/cm³
 - **Water Solubility:** Insoluble
 - **Auto-ignition Temperature:** No data available
 - **Decomposition Temperature:** > 535 °C
-

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: No data available. **10.2 Chemical Stability:** Stable under recommended storage conditions. **10.3 Possibility of Hazardous Reactions:** No data available. **10.4 Conditions to Avoid:** Exposure to moisture. Heat. **10.5 Incompatible Materials:** Strong acids, Strong reducing agents, Organic materials. **10.6 Hazardous Decomposition Products:** 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/Eye 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.

- **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 through prolonged or repeated exposure. - Brain, Central nervous system.
-

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: No data available. **12.2 Persistence and Degradability:** No data available. **12.3 Bioaccumulative Potential:** No data available. **12.4 Mobility in Soil:** No data available. **12.5 Results of PBT and vPvB Assessment:** Not applicable. **12.6 Other Adverse Effects:** 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

14.1 UN Number: ADR/RID: - | IMDG: - | IATA: - **14.2 UN Proper Shipping Name:** Not dangerous goods. **14.3 Transport Hazard Class(es):** ADR/RID: - | IMDG: - | IATA: - **14.4 Packaging Group:** ADR/RID: - | IMDG: - | IATA: - **14.5 Environmental Hazards:** ADR/RID: no | IMDG Marine pollutant: no | IATA: no **14.6 Special Precautions for User:** No data available.

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

Full text of H-Statements referred to under sections 2 and 3:

- H302: Harmful if swallowed.
- H332: Harmful if inhaled.
- H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

Further Information: 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.