

SAFETY DATA SHEET (SDS)

Natural Manganese Sand Filter Media

SECTION 1: IDENTIFICATION

1.1 Product Identifier

- **Product Name:** Natural Manganese Sand Filter Media
- **Synonyms:** Manganese Ore, MnO₂ Filter Media, Manganese Dioxide Sand
- **CAS Number:** 1313-13-9 (for Manganese Dioxide component)

1.2 Recommended Use and Restrictions

- **Use:** Water treatment, catalytic oxidation, iron and manganese removal.
- **Restrictions:** Industrial and professional use only.

1.3 Supplier Details

- **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 Contact:** +8618273793022 (24/7 Support)
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SECTION 2: HAZARD IDENTIFICATION

2.1 Classification of the Substance or Mixture

- **Physical Hazards:** Not classified.
- **Health Hazards:**
 - Specific Target Organ Toxicity - Repeated Exposure (Category 2) - Inhalation of dust.
 - Eye Irritation (Category 2B) - Mild irritant.
- **Environmental Hazards:** Not classified.

2.2 GHS Label Elements

- **Signal Word:** Warning
- **Hazard Statements:**
 - H373: May cause damage to organs (lungs, central nervous system) through prolonged or repeated exposure via inhalation.
 - H320: Causes eye irritation.
- **Precautionary Statements:**
 - P260: Do not breathe dust.
 - P264: Wash hands thoroughly after handling.
 - P280: Wear protective gloves/eye protection/face protection.
 - P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P314: Get medical advice/attention if you feel unwell.

2.3 Other Hazards

- Dust may cause mechanical irritation to the respiratory system and skin.
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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances/Mixtures

- **Type:** Natural Mineral (Manganese Ore)

Component	CAS Number	Weight %	GHS Classification
Manganese Dioxide (MnO ₂)	1313-13-9	30.0 – 40.0	STOT RE 2, Acute Tox 4
Silicon Dioxide (SiO ₂)	14808-60-7	30.0 – 50.0	Not classified as dust
Iron Oxide (Fe ₂ O ₃)	1309-37-1	5.0 – 15.0	Not classified
Other Natural Minerals	-	Balance	Not classified

SECTION 4: FIRST-AID MEASURES

4.1 Description of First Aid Measures

- **Inhalation:** Remove person to fresh air. If breathing is difficult, seek medical attention.
- **Skin Contact:** Wash with soap and water. If irritation persists, seek medical advice.
- **Eye Contact:** Flush with large amounts of water for at least 15 minutes. Seek medical attention if irritation persists.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting. Seek medical attention if large quantities are swallowed.

4.2 Most Important Symptoms and Effects

- Acute: Mechanical irritation of eyes and respiratory tract.
- Delayed: Chronic exposure to manganese dust may affect the central nervous system (Manganism).

4.3 Immediate Medical Attention and Special Treatment

- Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

- **Suitable:** Water spray, dry chemical, carbon dioxide, or foam. Product is non-combustible.

5.2 Special Hazards Arising from the Substance

- Manganese oxides may be released at very high temperatures (>500°C). MnO₂ is an oxidizer and may support combustion of other materials at high temperatures.

5.3 Advice for Firefighters

- Wear self-contained breathing apparatus (SCBA) and full protective clothing.
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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions

- Avoid dust formation. Use personal protective equipment (see Section 8).

6.2 Environmental Precautions

- Prevent large quantities from entering drains or watercourses.

6.3 Methods for Containment and Cleaning Up

- Vacuum or sweep up material and place in a designated, labeled waste container. Avoid dry sweeping; use water mist to reduce dust.
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SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling

- Provide adequate ventilation. Avoid breathing dust. Wash thoroughly after handling.

7.2 Conditions for Safe Storage

- Store in a cool, dry, well-ventilated area. Keep containers tightly closed. Keep away from strong acids and reducing agents.
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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters (Manganese as Mn)

- **ACGIH TLV:** 0.02 mg/m³ (respirable fraction); 0.1 mg/m³ (inhalable fraction).
- **OSHA PEL:** 5 mg/m³ (Ceiling).

8.2 Exposure Controls

- **Engineering Controls:** Use local exhaust ventilation or process enclosure to keep airborne levels below exposure limits.
 - **Personal Protective Equipment:**
 - **Respiratory:** Use N95 or P100 dust mask if ventilation is inadequate.
 - **Eyes:** Safety glasses with side shields or goggles.
 - **Skin:** Wear protective gloves and work clothing.
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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** Dark brown to black granules.
 - **Odor:** Odorless.
 - **pH:** 6.5 – 8.5 (in water slurry).
 - **Melting Point:** > 1,200°C (decomposes).
 - **Bulk Density:** 1.4 – 1.8 g/cm³.
 - **Solubility in Water:** Insoluble.
 - **Flash Point:** Not applicable.
 - **Auto-ignition Temperature:** Not applicable.
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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

- Stable under normal conditions.

10.2 Chemical Stability

- Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions

- MnO₂ is a strong oxidizer; avoid contact with concentrated acids (e.g., HCl) which may release chlorine gas.

10.4 Conditions to Avoid

- Dust generation, extreme heat.

10.5 Incompatible Materials

- Strong acids, strong reducing agents, flammable materials.

10.6 Hazardous Decomposition Products

- Manganese oxides, Silicon oxides.
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SECTION 11: TOXICOLOGICAL INFORMATION

- **Acute Toxicity:** LD50 Oral (Rat) > 3,478 mg/kg (for MnO₂).
 - **Skin Corrosion/Irritation:** May cause mechanical irritation.
 - **Serious Eye Damage/Irritation:** May cause mechanical irritation.
 - **Respiratory or Skin Sensitization:** Not expected to be a sensitizer.
 - **Carcinogenicity:** Not listed by IARC, NTP, or OSHA as a carcinogen.
 - **Chronic Toxicity:** Long-term inhalation of manganese dust can lead to “Manganism,” a neurological disorder similar to Parkinson’s disease.
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SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

- Insoluble mineral; low toxicity to aquatic life.

12.2 Persistence and Degradability

- Not biodegradable; persistent as a natural mineral.

12.3 Bioaccumulative Potential

- Low potential for bioaccumulation.
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SECTION 13: DISPOSAL CONSIDERATIONS

- **Waste Disposal:** Dispose of in accordance with local, state, and federal environmental regulations. Not typically classified as hazardous waste unless contaminated.
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SECTION 14: TRANSPORT INFORMATION

- **DOT (US):** Not regulated as a hazardous material.
 - **IMDG:** Not regulated.
 - **IATA:** Not regulated.
 - **UN Number:** None.
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SECTION 15: REGULATORY INFORMATION

- **TSCA:** All components are listed or exempt.
 - **SARA 313:** Contains Manganese compounds subject to reporting.
 - **California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.
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SECTION 16: OTHER INFORMATION

- **Revision Date:** April 14, 2026
- **Prepared By:** BTLnewmaterial Technical Department
- **Abbreviations:**
 - GHS: Globally Harmonized System
 - CAS: Chemical Abstracts Service
 - TLV: Threshold Limit Value

- PEL: Permissible Exposure Limit

Notice to Reader: The information contained herein is believed to be accurate but is not warranted to be so. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use.