Material Safety Data Sheet (MSDS)

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

Section 1: Identification

1.1 Product Identifier

- **Product Name:** Electronic Grade Manganese Carbonate
- **Synonyms:** Carbonic acid, manganese(2+) salt (1:1); Manganese(II) carbonate
- **CAS No.:** 598-62-9

1.2 Recommended Use of the Chemical and Restrictions on Use

- **Recommended Use:** Soft magnetic ferrite cores, Inductor and transformer materials, EMI suppression components, Ferrite powder production.
- **Restrictions on Use:** No specific restrictions identified. Use only as directed.

1.3 Supplier’s 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 Phone Number

- **Emergency Phone:** +8618273793022

Section 2: Hazard(s) Identification

2.1 Classification of the Substance or Mixture Not classified as a hazardous substance or mixture according to the Globally Harmonized System (GHS).

2.2 GHS Label Elements, Including Precautionary Statements

- **Pictogram:** None
- **Signal Word:** None
- **Hazard Statements:** None
- **Precautionary Statements:** None

2.3 Other Hazards which do not result in classification May cause mechanical irritation to the eyes, skin, and respiratory tract if exposed to excessive dust. Prolonged or repeated inhalation of manganese dust may cause neurological effects (manganism).

Section 3: Composition/Information on Ingredients

3.1 Substances

- **Chemical Name:** Manganese Carbonate
- **Formula:** $MnCO_3$
- **Molecular Weight:** 114.95 g/mol
- **CAS No.:** 598-62-9

3.2 Technical Specifications & Impurities

Component / Parameter	Concentration / Typical Value
$MnCO_3$ Purity	≥ 99%
Manganese (Mn) Content	≥ 44%
Iron (Fe)	≤ 0.01%
Calcium (Ca)	≤ 0.05%
Magnesium (Mg)	≤ 0.05%
Lead (Pb)	≤ 5 ppm
Arsenic (As)	≤ 3 ppm
Cadmium (Cd)	≤ 3 ppm
Moisture	≤ 0.5%

Section 4: First-Aid Measures

4.1 Description of Necessary First-Aid Measures

- **Inhalation:** Move the exposed person to fresh air. If breathing is difficult, give oxygen. If symptoms persist, consult a physician.
- **Skin Contact:** Wash off immediately with plenty of soap and water. Remove contaminated clothing and shoes. Get medical attention if irritation develops and persists.
- **Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician if irritation persists.
- **Ingestion:** Rinse mouth with water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Consult a physician.

4.2 Most Important Symptoms/Effects, Acute and Delayed May cause slight irritation to the respiratory tract, eyes, and skin. Prolonged inhalation of manganese dust may cause neurological effects (manganism).

4.3 Indication of Immediate Medical Attention and Special Treatment Needed, if necessary Treat symptomatically.

Section 5: Fire-Fighting Measures

5.1 Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, dry chemical, carbon dioxide (CO_2), or appropriate foam.

5.2 Specific Hazards Arising from the Chemical The product itself is non-combustible. Thermal decomposition can lead to the release of irritating and toxic gases and vapors, including carbon oxides (CO, CO_2) and manganese oxides.

5.3 Special Protective Actions for Fire-Fighters Wear self-contained breathing apparatus (SCBA) and full protective gear. Avoid breathing fumes or dust.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust. Wear appropriate personal protective equipment (see Section 8).

6.2 Environmental Precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains, waterways, or soil.

6.3 Methods and Materials for Containment and Cleaning Up Sweep up and shovel into suitable, closed containers for disposal. Avoid generating dust during clean-up. Dispose of in accordance with local regulations.

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, eyes, and clothing. Avoid breathing dust. Wash hands thoroughly after handling.

7.2 Conditions for Safe Storage, Including Any Incompatibilities Keep containers tightly closed in a dry, cool, and well-ventilated place. Protect from moisture. Keep away from incompatible materials such as strong acids and strong oxidizing agents.

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters (Occupational Exposure Limits)

- **Manganese and inorganic compounds (as Mn):**
  - ACGIH TLV: 0.02 mg/m^3 (respirable fraction), 0.1 mg/m^3 (inhalable fraction)
  - OSHA PEL: 5 mg/m^3 (Ceiling)
  - NIOSH REL: 1 mg/m^3 (TWA), 3 mg/m^3 (STEL)

8.2 Appropriate Engineering Controls Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

8.3 Individual Protection Measures, such as Personal Protective Equipment (PPE)

- **Eye/Face Protection:** Safety glasses with side-shields or chemical goggles.
- **Skin Protection:** Wear appropriate protective gloves (e.g., nitrile rubber) and protective clothing to prevent skin exposure.
- **Respiratory Protection:** In case of insufficient ventilation or if exposure limits are exceeded, wear a suitable NIOSH/MSHA approved particulate respirator (e.g., N95 or higher).
- **Hygiene Measures:** Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

- **Appearance:** Light pink to light brown powder
- **Odor:** Odorless

- **Odor Threshold:** No data available
- **pH:** No data available (typically slightly acidic to neutral in aqueous suspension)
- **Melting Point/Freezing Point:** Decomposes before melting (~200 °C)
- **Initial Boiling Point and Boiling Range:** Not applicable
- **Flash Point:** Not applicable (non-flammable)
- **Evaporation Rate:** Not applicable
- **Flammability (solid, gas):** Non-flammable
- **Upper/Lower Flammability or Explosive Limits:** Not applicable
- **Vapor Pressure:** Not applicable
- **Vapor Density:** Not applicable
- **Relative Density (Bulk Density):** 0.7–1.0 g/cm^3
- **Solubility:** Insoluble in water; Soluble in dilute acids (Solubility in Dilute Acid ≥ 98%)
- **Partition Coefficient (n-octanol/water):** No data available
- **Auto-ignition Temperature:** Not applicable
- **Decomposition Temperature:** > 200 °C (decomposes to MnO and CO_2)
- **Viscosity:** Not applicable
- **Particle Size:** 200–400 mesh

Section 10: Stability and Reactivity

10.1 Reactivity Stable under normal conditions of use and storage.

10.2 Chemical Stability Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions None under normal processing. Reacts with strong acids to release carbon dioxide gas.

10.4 Conditions to Avoid Incompatible products, excess heat, dust formation, and moisture.

10.5 Incompatible Materials Strong acids, strong oxidizing agents.

10.6 Hazardous Decomposition Products Carbon oxides (CO, CO_2), Manganese oxides.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity:** No acute toxicity data available for the pure substance. Estimated LD50 Oral (Rat) > 2,000 mg/kg based on similar manganese compounds.
- **Skin Corrosion/Irritation:** May cause slight mechanical irritation.
- **Serious Eye Damage/Irritation:** May cause slight mechanical irritation.
- **Respiratory or Skin Sensitization:** No data available.
- **Germ Cell Mutagenicity:** No data available.
- **Carcinogenicity:** Not listed as a carcinogen by IARC, NTP, OSHA, or ACGIH.
- **Reproductive Toxicity:** No data available.
- **STOT - Single Exposure:** May cause respiratory tract irritation.
- **STOT - Repeated Exposure:** Prolonged or repeated inhalation exposure to manganese dust or fumes may cause central nervous system effects, a condition known as manganism (symptoms include weakness, lethargy, tremors, and psychological disturbances).
- **Aspiration Hazard:** Not applicable.

Section 12: Ecological Information

12.1 Ecotoxicity May cause long-term adverse effects in the aquatic environment if released in large quantities. Specific ecotoxicity data for manganese carbonate is limited.

12.2 Persistence and Degradability Inorganic product; cannot be eliminated from water by biological purification processes.

12.3 Bioaccumulative Potential No data available.

12.4 Mobility in Soil No data available.

12.5 Other Adverse Effects No data available.

Section 13: Disposal Considerations

13.1 Disposal Methods Dispose of in accordance with local, regional, national, and international regulations. Do not dispose of waste into the sewer or environment.

13.2 Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse empty containers.

Section 14: Transport Information

14.1 UN Number Not regulated as a dangerous good.

14.2 UN Proper Shipping Name Not regulated.

14.3 Transport Hazard Class(es) Not regulated.

14.4 Packing Group Not regulated.

14.5 Environmental Hazards Not regulated.

14.6 Special Precautions for User Not applicable.

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations Specific for the Product

- **TSCA (Toxic Substances Control Act):** Listed on the TSCA inventory.
- **SARA 302 Components:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- **SARA 313 Components:** This material contains manganese compounds, which are subject to the reporting requirements of Section 313 of SARA Title III.

- **California Proposition 65:** This product does not contain any Proposition 65 chemicals.

Section 16: Other Information

- **Date of Preparation:** March 26, 2026
- **Revision:** 1.0
- **Disclaimer:** The information provided in this Material Safety Data Sheet (MSDS) is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Users should make their own investigations to determine the suitability of the information for their particular purposes.