Safety Data Sheet (SDS)

Ceramic Grade Manganese Carbonate for Brown Glazes

Revision Date: 2026-03-19

Section 1: Identification

1.1 Product Identifier

- **Product Name:** Ceramic Grade Manganese Carbonate
- **Chemical Name:** Manganese(II) Carbonate
- **Synonyms:** Rhodochrosite (mineral form), Manganous Carbonate
- **Chemical Formula:** $MnCO_3$
- **CAS No.:** 598-62-9
- **EC No.:** 209-931-5

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

- **Identified Uses:** Ceramic raw material, colorant for glazes (brown, black, earthy tones), flux in ceramic formulations, component in ceramic pigments.
- **Uses Advised Against:** Not for human consumption. Industrial use only.

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

- +8618273793022 (During business hours)

Section 2: Hazard(s) Identification

2.1 Classification of the Substance or Mixture

According to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS), this substance is generally **not classified as a dangerous substance** for human health or the environment under normal conditions of use. However, some sources indicate a potential **short-term (acute) aquatic hazard, Category 2** [1].

2.2 GHS Label Elements

- **Hazard Pictogram(s):** None (if not classified as hazardous to health or environment)
- **Signal Word:** None
- **Hazard Statements:** None
- **Precautionary Statements:** None

2.3 Other Hazards Which Do Not Result in GHS Classification

- Dust may cause mechanical irritation to eyes and respiratory tract.
- Prolonged or repeated exposure to manganese dusts may cause central nervous system effects (manganism).

Section 3: Composition/Information on Ingredients

3.1 Substances

Chemical Identity	Common Name	CAS No.	EC No.	Concentration (%)
Manganese(II) Carbonate	Manganese Carbonate	598-62-9	209-931-5	≥ 98

Impurities: Fe (Iron) ≤ 0.02–0.10%, Ca (Calcium) ≤ 0.05%, Mg (Magnesium) ≤ 0.05%, Pb (Lead) ≤ 10 ppm.

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:** If breathed in, 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 if irritation develops.
- **In Case of Eye Contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- **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

- **Acute:** May cause irritation to eyes, skin, and respiratory tract. Ingestion may cause gastrointestinal upset.
- **Delayed:** Prolonged or repeated inhalation of manganese dusts may lead to neurological disorders (manganism) characterized by psychiatric symptoms, motor disturbances, and cognitive impairment.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

- Treat symptomatically. For severe exposures, medical observation and treatment may be required.

Section 5: Fire-Fighting Measures

5.1 Extinguishing Media

- **Suitable Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
- **Unsuitable Extinguishing Media:** None known.

5.2 Specific Hazards Arising from the Substance or Mixture

- Not considered to be a fire hazard. Non-flammable. In a fire, may produce irritating or toxic fumes (e.g., manganese oxides, carbon oxides).

5.3 Advice for Firefighters

- Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

- Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Use personal protective equipment (refer to Section 8).

6.2 Environmental Precautions

- Do not let product enter drains. Avoid discharge into the environment. Prevent further leakage or spillage if safe to do so.

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 inhalation of dust. Provide appropriate exhaust ventilation at places where dust is formed. For precautions, see Section 2.2.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

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

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

- **Occupational Exposure Limits (OELs):**
  - **Manganese (as Mn, respirable fraction):** 0.02 mg/m^3 (ACGIH TLV, TWA); 0.1 mg/m^3 (OSHA PEL, Ceiling)
  - **Manganese (as Mn, total dust):** 0.2 mg/m^3 (ACGIH TLV, TWA); 5 mg/m^3 (OSHA PEL, Ceiling)

8.2 Exposure Controls

- **Engineering Controls:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday. Use local exhaust ventilation to keep airborne concentrations below the recommended exposure limits.
- **Personal Protective Equipment (PPE):**
  - **Eye/Face Protection:** Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
  - **Skin Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

- **Body Protection:** Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- **Respiratory Protection:** For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Property	Value
Appearance	Light pink to brownish powder
Odor	Odorless
Odor Threshold	Not applicable
pH	Not available (slightly alkaline)
Melting Point/Freezing Point	Decomposes above 200 °C
Initial Boiling Point and Range	Not applicable (decomposes)
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Non-flammable
Upper/Lower Flammability Limit	Not applicable
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Relative Density	3.62 g/cm^3 (approx.)
Solubility(ies)	Insoluble in water, soluble in acids
Partition Coefficient	Not available
Auto-Ignition Temperature	Not applicable
Decomposition Temperature	> 200 °C
Viscosity	Not applicable (solid)
Explosive Properties	Not explosive
Oxidizing Properties	Not oxidizing
Particle Size	200–325 mesh

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical Stability

- Stable under recommended storage conditions.

10.3 Possibility of Hazardous Reactions

- No hazardous reactions known.

10.4 Conditions to Avoid

- Exposure to strong acids, high temperatures (above decomposition temperature).

10.5 Incompatible Materials

- Strong acids, strong oxidizing agents.

10.6 Hazardous Decomposition Products

- Under fire conditions: Manganese oxides, carbon oxides. Other decomposition products not identified.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects

- **Acute Toxicity:**
  - LD50 Oral - Rat: > 5,000 mg/kg (Manganese Carbonate) [2]
  - LC50 Inhalation - Rat: No data available
  - LD50 Dermal - Rabbit: No data available
- **Skin Corrosion/Irritation:** May cause mild irritation.
- **Serious Eye Damage/Irritation:** May cause mild 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:** No data available.
- **STOT-Repeated Exposure:** Prolonged or repeated inhalation of manganese dusts may cause central nervous system effects (manganism).
- **Aspiration Hazard:** Not considered an aspiration hazard.

Section 12: Ecological Information

12.1 Toxicity

- **Acute Aquatic Toxicity:** Category 2 (Harmful to aquatic life with long lasting effects) [1].
  - LC50 Fish: No data available
  - EC50 Daphnia: No data available
  - EC50 Algae: No data available

12.2 Persistence and Degradability

- Manganese carbonate is an inorganic compound and is not expected to be readily biodegradable. It can undergo chemical transformations in the environment.

12.3 Bioaccumulative Potential

- Manganese is an essential trace element, but excessive levels can accumulate in organisms. Bioaccumulation potential of $MnCO_3$ is generally low in its insoluble form.

12.4 Mobility in Soil

- Insoluble in water, therefore low mobility in soil. However, under acidic conditions, it can become more soluble and mobile.

12.5 Other Adverse Effects

- No other adverse environmental effects are expected.

Section 13: Disposal Considerations

13.1 Waste Treatment Methods

- **Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dispose of in accordance with local, regional, national, and international regulations.
- **Contaminated Packaging:** Dispose of as unused product.

Section 14: Transport Information

14.1 UN Number

- Not regulated as a hazardous material for transport.

14.2 UN Proper Shipping Name

- Not applicable.

14.3 Transport Hazard Class(es)

- Not applicable.

14.4 Packing Group

- Not applicable.

14.5 Environmental Hazards

- Not a marine pollutant.

14.6 Special Precautions for User

- No special precautions required.

Section 15: Regulatory Information

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

- **USA:** OSHA Hazard Communication Standard (29 CFR 1910.1200) - Not considered hazardous by some manufacturers. SARA 313 (TRI reporting) - Manganese compounds are subject to reporting requirements.
- **EU:** Classification according to Regulation (EC) No $^{1272}/_{2008}$ (CLP) - Generally not classified as hazardous, but some classifications may include aquatic toxicity.
- **China:** Relevant national regulations for chemical safety and environmental protection.

Section 16: Other Information

16.1 Date of Preparation or Last Revision

- **Date of Preparation:** 2026-03-19
- **Version:** 1.0

16.2 Key to Abbreviations and Acronyms Used in the SDS

- **ACGIH:** American Conference of Governmental Industrial Hygienists
- **CAS:** Chemical Abstracts Service
- **CLP:** Classification, Labelling and Packaging (EU Regulation)
- **EC No.:** European Community Number
- **GHS:** Globally Harmonized System of Classification and Labelling of Chemicals
- **IARC:** International Agency for Research on Cancer
- **LD50:** Lethal Dose, 50%
- **LC50:** Lethal Concentration, 50%
- **MSDS/SDS:** Material Safety Data Sheet / Safety Data Sheet
- **NIOSH:** National Institute for Occupational Safety and Health
- **NTP:** National Toxicology Program

- **OEL:** Occupational Exposure Limit
- **OSHA:** Occupational Safety and Health Administration
- **PEL:** Permissible Exposure Limit
- **PPE:** Personal Protective Equipment
- **STOT:** Specific Target Organ Toxicity
- **TWA:** Time-Weighted Average
- **UN:** United Nations

16.3 References

[1] PubChem. (n.d.). *Manganese carbonate*. Retrieved from https://pubchem.ncbi.nlm.nih.gov/compound/Manganese-carbonate [2] Fisher Scientific. (2015, December 8). *SAFETY DATA SHEET: Manganese(II) carbonate*. Retrieved from https://www.fishersci.com/store/msds?partNumber=AC222540010&countryCode=US&language=en

16.4 Disclaimer

The information provided in this Safety Data Sheet 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. This information is supplied for the information of the user and is not intended as a warranty or specification of any kind. Users are responsible for determining the suitability of this information for their particular purposes.