

Technical Datasheet (TDS)

Precipitated Manganese Carbonate ($MnCO_3$)

1. Company Information

Entity	Details
Company Name	BTLnewmaterial
Email	lixifirm@outlook.com
Phone/WhatsApp	+8618273793022
Website	manganesesupply.com
Address	Room 706, No. 154, Wuyi East Road, Niezhou Residential Committee, Caizichi Sub-district Office, Leiyang City, Hengyang City, Hunan Province, China

2. Product Description

Precipitated Manganese Carbonate is a high-purity, synthetic inorganic compound produced through a controlled precipitation process. It is specifically designed for high-performance applications such as chemical catalysts and specialty chemical synthesis. Compared to natural manganese carbonate, the precipitated grade offers a finer, more uniform particle size and a significantly higher specific surface area, which enhances its reactivity and catalytic efficiency. It appears as a light pink to pale brown, odorless powder.

3. Key Features

- **High Surface Area:** Enhanced reactivity due to the fine, precipitated particle structure.
- **Superior Purity:** Minimum $MnCO_3$ content of 98.0%, with strictly controlled metallic impurities.
- **Controlled Impurities:** Low levels of Iron (Fe), Calcium (Ca), and Magnesium (Mg) to prevent interference with catalytic sites.
- **Excellent Thermal Decomposition:** Decomposes uniformly during calcination to form highly reactive manganese oxides.
- **Consistency:** Reliable batch-to-batch quality ensuring predictable performance in industrial processes.

4. Technical Specifications

Chemical Composition

Parameter	Unit	Specification	Typical Value
Manganese Carbonate ($MnCO_3$)	%	≥ 98.0	98.5
Manganese (Mn)	%	≥ 46.5	46.8
Iron (Fe)	%	≤ 0.002	0.001
Sulfate (SO_4^{2-})	%	≤ 0.03	0.015
Chloride (Cl^-)	%	≤ 0.005	0.002
Lead (Pb)	%	≤ 0.001	0.0005
Cadmium (Cd)	%	≤ 0.0005	0.0002
Arsenic (As)	%	≤ 0.0005	0.0001
Calcium (Ca)	%	≤ 0.01	0.005
Magnesium (Mg)	%	≤ 0.01	0.005
Insoluble in HCl	%	≤ 0.03	0.01

Physical Properties

Property	Value
Appearance	Light pink to pale brown powder
Odor	Odorless
Molecular Weight	114.95 g/mol
CAS Number	598-62-9
Bulk Density	0.5 - 0.8 g/cm ³
Particle Size (D_{50})	2 - 10 μm
Moisture (H_2O)	$\leq 0.5\%$
Solubility	Insoluble in water; Soluble in dilute acids

5. Applications

- **Chemical Catalysts:** Used as a precursor for various manganese-based catalysts in oxidation, hydrogenation, and organic synthesis.
 - **Specialty Chemicals:** Raw material for the production of high-purity manganese salts (e.g., Manganese Acetate, Manganese Octoate).
 - **Ceramics & Glass:** High-purity colorant and fluxing agent in precision ceramics and optical glass.
 - **Electronics:** Used in the synthesis of soft magnetic materials and ferrite components.
 - **Agriculture:** High-bioavailability manganese source for premium foliar fertilizers and animal nutrition.
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6. Packaging & Supply

- **Standard Packaging:** 25 kg multi-wall paper bags with PE inner liner, or 1000 kg jumbo bags (FIBC).

- **Storage:** Store in a cool, dry, and well-ventilated warehouse. Keep away from incompatible materials (strong acids) and moisture.
 - **Shelf Life:** 24 months from the date of manufacture when stored in original, unopened packaging.
 - **Shipping:** Non-hazardous for land, sea, and air transport.
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Disclaimer: *The information provided in this TDS is based on our current knowledge and experience. Users should conduct their own tests to determine the suitability of the product for their specific applications.*