

Technical Datasheet (TDS)

Ultra Low Iron Manganese Carbonate ($MnCO_3$)

1. Company Information

Entity	Details
Company Name	BTLnewmaterial
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Website	manganesesupply.com
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2. Product Description

Ultra Low Iron Manganese Carbonate is a high-purity inorganic compound specifically engineered for applications requiring minimal metallic impurities. It appears as a light pink to pale brown, odorless powder. This product is synthesized through advanced purification processes, including solvent extraction and ion exchange, to ensure exceptionally low iron levels (typically below 10 ppm). It serves as a critical precursor for high-purity manganese salts and battery-grade materials.

3. Key Features

- Ultra-Low Impurity Profile:** Specifically controlled iron (Fe), calcium (Ca), and magnesium (Mg) levels to prevent downstream contamination.

- **High Purity:** Manganese content maintained at $\geq 44.0\%$, ensuring high efficiency in chemical reactions.
 - **Excellent Reactivity:** Optimized particle size distribution for rapid dissolution in acids.
 - **Consistency:** Produced under strict quality control standards (GB/T 1472-2008) to ensure batch-to-batch uniformity.
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4. Technical Specifications

Chemical Composition

Parameter	Unit	Specification	Typical Value
Manganese (Mn)	%	≥ 44.0	44.2
Manganese Carbonate ($MnCO_3$)	%	≥ 92.0	92.8
Iron (Fe)	ppm	≤ 10	5 - 8
Sulfate (SO_4^{2-})	%	≤ 0.05	0.03
Chloride (Cl^-)	%	≤ 0.01	0.005
Lead (Pb)	%	≤ 0.001	0.0005
Cadmium (Cd)	%	≤ 0.0005	0.0002
Calcium (Ca)	%	≤ 0.01	0.005
Magnesium (Mg)	%	≤ 0.01	0.005
Insoluble in HCl	%	≤ 0.05	0.02

Physical Properties

Property	Value
Appearance	Light pink to pale brown powder
Odor	Odorless
Molecular Weight	114.95 g/mol
CAS Number	598-62-9
Density (Bulk)	0.6 - 1.0 g/cm ³
Particle Size (D_{50})	5 - 20 μm
Moisture (H_2O)	$\leq 0.5\%$
Solubility	Insoluble in water; Soluble in dilute acids

5. Applications

- **High-Purity Manganese Salts:** Ideal precursor for manufacturing high-purity Manganese Sulfate ($MnSO_4$), Manganese Chloride ($MnCl_2$), and Manganese Nitrate ($Mn(NO_3)_2$).
- **Battery Materials:** Used in the production of cathode active materials for lithium-ion batteries (e.g., LMO, NCM) where low iron is critical for electrochemical performance.
- **Catalysts:** Employed in chemical synthesis as a high-purity catalyst or catalyst support.
- **Electronics & Ceramics:** Used in the manufacture of soft magnetic ferrites and high-end ceramic glazes.

6. Packaging & Supply

- **Standard Packaging:** 25 kg multi-wall paper bags with PE liner, or 1000 kg jumbo bags (FIBC).
- **Storage:** Store in a cool, dry, and well-ventilated warehouse. Keep away from moisture and direct sunlight. Ensure containers are tightly sealed.

- **Shelf Life:** 24 months from the date of manufacture when stored under recommended conditions.
 - **Shipping:** Classified as non-hazardous for 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.*