

Technical Datasheet: Electronic Grade Manganese Carbonate (MnCO₃) for Soft Magnetic Ferrites

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1. Product Description

Electronic Grade Manganese Carbonate is a high-purity MnCO₃ precursor specifically engineered for the production of soft magnetic ferrites. This product is characterized by its stable manganese (Mn) content and meticulously controlled impurity levels, making it an ideal choice for ferrite core manufacturing where consistent magnetic performance is paramount. It plays a crucial role in achieving reproducible magnetic properties in various electronic components.

2. Key Features

- High Purity Manganese Source:** Provides a high-purity manganese source essential for consistent ferrite phase formation, which directly impacts magnetic properties.
- Low Iron (Fe) Content:** Features a low iron content ($\leq 0.01\%$), effectively minimizing magnetic loss and enhancing the permeability of the resulting ferrite materials.
- Controlled Impurities (Ca, Mg):** Contains controlled levels of calcium (Ca) and magnesium (Mg) impurities ($\leq 0.05\%$ each), ensuring stable sintering behavior and uniform microstructure in ferrite production.
- Low Heavy Metals:** Strict control over heavy metals such as lead (Pb ≤ 5 ppm), arsenic (As ≤ 3 ppm), and cadmium (Cd ≤ 3 ppm) ensures compliance with stringent electronic material safety and reliability standards.

- **Fine Particle Size:** Exhibits a fine particle size (200–400 mesh), which supports uniform mixing and efficient calcination processes, leading to improved material homogeneity.

3. Technical Specifications

The following table details the key technical parameters and chemical composition of BTLnewmaterial’s Electronic Grade Manganese Carbonate for Soft Magnetic Ferrites:

Parameter	Typical Value
MnCO ₃ Purity	≥ 99%
Manganese (Mn) Content	≥ 44%
Particle Size	200–400 mesh
Moisture	≤ 0.5%
Bulk Density	0.7–1.0 g/cm ³
Solubility in Dilute Acid	≥ 98%
Iron (Fe)	≤ 0.01%
Calcium (Ca)	≤ 0.05%
Magnesium (Mg)	≤ 0.05%
Lead (Pb)	≤ 5 ppm
Arsenic (As)	≤ 3 ppm
Cadmium (Cd)	≤ 3 ppm

4. Applications

Electronic Grade Manganese Carbonate from BTLnewmaterial is widely used in critical applications within the electronics industry:

- **Soft Magnetic Ferrite Cores:** Serves as a primary manganese source for the production of soft magnetic ferrite cores, particularly in Mn-Zn ferrite compositions, contributing to magnetic stability and performance.
- **Inductor and Transformer Materials:** Essential for manufacturing materials used in inductors and transformers, supporting the achievement of low core loss and high permeability.
- **EMI Suppression Components:** Utilized in the formulation of components designed for electromagnetic interference (EMI) suppression, ensuring stable magnetic response in sensitive electronic circuits.
- **Ferrite Powder Production:** Suitable for controlled calcination and achieving high phase purity in the production of various ferrite powders.
- **Precision Ferrite Formulation:** Employed in precision ferrite formulation processes to ensure reproducible magnetic properties and consistent product quality.

5. Packaging & Supply

BTLnewmaterial ensures secure and efficient packaging and supply of Electronic Grade Manganese Carbonate:

- **Packaging:** The product is supplied in 25 kg kraft paper bags, each lined with polyethylene (PE) to maintain product integrity and protect against moisture.
- **Export Packaging:** For international distribution, the product is palletized to ensure safe and efficient handling and transportation.
- **Shipment Options:** Available for container shipment in both 20GP (General Purpose) and 40HQ (High Cube) containers, catering to diverse order volumes.
- **Samples:** Samples are readily available for laboratory and pilot testing, allowing customers to evaluate the product's suitability for their specific applications.