

Technical Data Sheet (TDS)

Ceramic Grade Manganese Carbonate for Brown Glazes

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1. Product Description

Ceramic Grade Manganese Carbonate ($MnCO_3$) is a high-performance ceramic raw material specifically designed for producing stable brown, black, and earthy glaze tones. It is widely used in stoneware, porcelain, and artistic ceramics as a reliable manganese source for consistent coloration and glaze performance. When fired, manganese carbonate decomposes into manganese oxides, which react with silica and alumina in the glaze to generate rich brown shades and deep black tones, especially under oxidizing conditions.

2. Key Features

- **Strong Brown Color Development:** Produces soy brown, dark brown, and black-brown glazes. Typical dosage: 0.5% – 5% for controlled shade variation. Offers warmer and more natural tones compared to iron-based browns.
- **Excellent Dispersion in Glaze Systems:** Fine powder ensures uniform color distribution, minimizing streaking, spotting, and color inconsistency.
- **Dual Function: Colorant + Flux:** Acts as a colorant for brown/black/purple glazes and functions as a mild flux, lowering melting temperature and improving glaze fusion.
- **Versatile Color Effects:** Depending on formulation and firing conditions, it can produce brown to black tones under oxidation firing, and gray, red, or greenish

tones under reduction firing. Can also create speckled or textured surfaces at higher loadings.

3. Technical Specifications

The following table outlines the key technical parameters and chemical composition of BTLnewmaterial's Ceramic Grade Manganese Carbonate:

Parameter	Specification
MnCO ₃ Purity	≥ 98%
Mn Content	≥ 44%
Particle Size	200–325 mesh
Fe (Iron)	≤ 0.02–0.10%
Ca (Calcium)	≤ 0.05%
Mg (Magnesium)	≤ 0.05%
Pb (Lead)	≤ 10 ppm
Moisture	≤ 0.5%

Note: Low impurity levels (Fe, Ca, Mg) are critical to avoid shade drift and unwanted color contamination in ceramic glazes.

4. Applications

- **Brown & Black Ceramic Glazes:** Ideal for tableware, stoneware, rustic, and traditional ceramics, as well as artistic and studio pottery.
- **Specialty Effects:** Used to create speckled clay bodies, reactive glazes, and metallic or crystalline finishes.
- **Ceramic Pigments & Stains:** Serves as a base material for manganese-based pigments and enhances glaze depth and visual texture.

5. Packaging & Supply

- **Standard Packaging:** 25 kg bags.
- **Custom Packaging:** Available upon request.
- **Supply:** Bulk supply options are available for ceramic factories.