Technical Data Sheet: High Purity Manganese Carbonate ($MnCO_3$)

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1. Product Description

High Purity Manganese Carbonate ($MnCO_3$) for Crystalline Glazes is a meticulously controlled material, characterized by its stable manganese content ($\geq 44\%$). This product is specifically formulated for ceramic glaze applications, ensuring consistent color development and predictable crystal formation behavior. Its high purity minimizes impurities that could otherwise compromise the aesthetic and functional integrity of glazes.

2. Key Features

- **High Purity $MnCO_3$:** Guarantees stable manganese oxide release during the firing process, crucial for consistent glaze outcomes.

- **Controlled Iron (Fe) Impurity:** Minimizes color distortion and prevents unwanted darkening, allowing for cleaner and more vibrant glaze colors.

- **Low Calcium (Ca) and Magnesium (Mg) Content:** Enhances glaze clarity and promotes consistent crystal growth, leading to superior aesthetic effects.

- **Fine Particle Size:** Facilitates uniform dispersion within glaze slurries, ensuring homogeneous application and performance.

- **Low Heavy Metals (Pb, Cd, As):** Complies with safety standards for ceramic processing, reducing regulatory risks and environmental concerns.

3. Technical Specifications

Parameter	Typical Value
$MnCO_3$ Purity	$\geq 98\%$
Manganese (Mn) Content	$\geq 44\%$
Particle Size	200–325 mesh
Moisture	$\leq 1.0\%$
Bulk Density	0.9–1.2 g/cm^3
Solubility in Dilute Acid	$\geq 95\%$
Iron (Fe)	$\leq 0.05\%$
Calcium (Ca)	$\leq 0.3\%$
Magnesium (Mg)	$\leq 0.3\%$
Lead (Pb)	≤ 10 ppm
Arsenic (As)	≤ 5 ppm
Cadmium (Cd)	≤ 5 ppm

4. Applications

High Purity Manganese Carbonate is versatile in its applications within the ceramic industry:

- **Crystalline Glaze Formulation:** Supports controlled crystal growth and the development of intricate surface patterns during cooling cycles.

- **Ceramic Glaze Colorant:** Produces a range of hues, including purple, brown, and plum tones, depending on the firing atmosphere and concentration.

- **Porcelain and Stoneware Glazes:** Serves as a manganese source, influencing flux behavior and contributing to desired color development.

- **Artistic Ceramics:** Enables consistent and repeatable aesthetic effects in decorative glaze systems.

- **High-Temperature Glazes:** Decomposes to manganese oxide (MnO) at elevated temperatures, playing a critical role in glaze melt characteristics and crystallization behavior.

5. Packaging & Supply

BTLnewmaterial ensures the safe and efficient delivery of High Purity Manganese Carbonate with the following packaging and supply options:

- **Packaging:** Available in 25 kg kraft paper bags, each lined with PE for enhanced protection and moisture resistance.

- **Export:** Products are provided with palletized export packaging to ensure stability and integrity during transit.

- **Shipment:** Available for container shipment (20GP / 40HQ) to accommodate various order sizes.

- **Samples:** Sample quantities are available for customers to conduct preliminary glaze testing and evaluation.

Disclaimer: The information provided herein is believed to be accurate and reliable. However, BTLnewmaterial makes no warranty, express or implied, concerning the use of this product. Users are responsible for determining the suitability of the product for their specific applications. This information is subject to change without notice.