Technical Data Sheet (TDS)

Reactive Manganese Oxide (MnO) for Chemical Synthesis Use

Company Name: BTLnewmaterial **Email:** lixifirm@outlook.com **Phone:** +8618273793022 **Website:** manganesesupply.com

1. Product Description

Reactive Manganese Oxide (MnO) is a high-purity manganese compound specifically engineered for controlled chemical synthesis processes. Characterized by its stable manganese content and low impurity levels, this product ensures consistent reactivity and reliable performance across various industrial applications. Its optimized properties make it an ideal choice for demanding chemical synthesis environments.

2. Key Features

- **High Manganese Concentration:** Provides a consistent and reliable source of manganese, crucial for achieving predictable outcomes in chemical reactions.
- **Controlled Impurity Profile:** Features low levels of heavy metals (e.g., Arsenic, Lead, Cadmium), which minimizes unwanted side reactions and supports stable synthesis processes.
- **Fine and Uniform Particle Size:** The optimized particle size (80–200 mesh) enhances surface area contact with reactants, leading to improved reaction kinetics and overall efficiency.
- **High Reactivity:** Exhibits excellent reactivity under both thermal and reductive conditions, making it versatile for a wide range of chemical transformations.

- **Reliable Input:** Ensures a dependable manganese input in synthesis systems, contributing to batch-to-batch consistency and product quality.

3. Technical Specifications

The following table details the key technical parameters and chemical composition of BTLnewmaterial's Reactive Manganese Oxide:

Parameter	Typical Value
MnO Purity	≥ 90–95%
Manganese (Mn) Content	≥ 60%
Particle Size	80–200 mesh
Moisture	≤ 1.5%
Bulk Density	1.0–1.5 g/cm^3
Solubility in 2% Citric Acid	≥ 85–90%
Arsenic (As)	≤ 5 ppm
Lead (Pb)	≤ 10 ppm
Cadmium (Cd)	≤ 5 ppm

Note: The controlled impurity levels and high solubility in citric acid highlight the product's suitability for sensitive chemical synthesis applications.

4. Applications

- **Chemical Synthesis:** Utilized as a fundamental manganese source in both inorganic and organic reaction systems, facilitating various chemical transformations.
- **Catalyst Preparation:** Serves as a key precursor for the production of manganese-based catalysts, which are vital for oxidation and reduction reactions in industrial chemistry.

- **Ceramic Materials:** Contributes to precise color control and enhances phase stability in advanced ceramic formulations.
- **Metallurgical Intermediates:** Applied in the preparation of precursors for a variety of manganese-based compounds used in metallurgical processes.
- **Battery Material Research:** Employed in laboratory-scale synthesis and development of manganese-containing materials for next-generation battery technologies.

5. Packaging & Supply

- **Standard Packaging:** Available in 25 kg kraft paper bags, each equipped with an inner PE liner to ensure product integrity and protection.
- **Export Packaging:** Palletized packaging solutions are provided for secure and efficient export shipments, complying with international logistics standards.
- **Bulk Supply:** Offered in bulk quantities to accommodate the continuous production needs of large-scale industrial users.
- **Logistics:** Supports both Full Container Load (FCL) and Less than Container Load (LCL) shipments, providing flexible transportation options.
- **Samples:** Product samples are readily available for laboratory and pilot testing, enabling customers to validate performance and compatibility before large-scale deployment.