

Technical Data Sheet: MnO Reagent for High-Purity Manganese Chemical Production

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1. Product Description

MnO Reagent is a high-purity manganese monoxide material specifically engineered for use in high-purity manganese chemical manufacturing processes. This reagent is characterized by its stable manganese content and exceptionally low impurity levels, making it an ideal raw material for the production of high-grade manganese salts and various intermediate chemical compounds. Its consistent quality ensures reliable performance in demanding chemical synthesis applications.

2. Key Features

- **High MnO Purity ($\geq 99\%$):** Ensures consistent and reliable performance in critical manganese chemical synthesis applications, minimizing unwanted side reactions.
- **Low Impurity Profile:** Features very low levels of iron (Fe), sulfate (SO_4^{2-}), and heavy metals (Pb), making it highly suitable for producing ultra-high-purity manganese salts required in sensitive applications.
- **High Acid Solubility ($\geq 98\%$):** Facilitates efficient and complete dissolution in acidic environments, optimizing reaction yields and process efficiency in chemical processing systems.
- **Controlled Particle Size (200–400 mesh):** Supports uniform reaction kinetics and consistent processing, contributing to predictable product quality and performance.

- **Reliable Manganese Input:** Provides a stable and high-concentration source of manganese, essential for the manufacturing of high-grade chemical products.

3. Technical Specifications

Parameter	Typical Value
MnO Purity	≥ 99%
Manganese (Mn) Content	≥ 77%
Particle Size	200–400 mesh
Moisture	≤ 0.5%
Bulk Density	1.2–1.8 g/cm ³
Acid Solubility	≥ 98%
Iron (Fe)	≤ 0.01%
Sulfate (SO ₄ ²⁻)	≤ 0.05%
Heavy Metals (Pb)	≤ 5 ppm

4. Applications

MnO Reagent is a critical component in the production of various high-purity manganese chemicals and related products:

- **Manganese Sulfate Production:** Serves as a primary raw material for the synthesis of high-purity manganese sulfate (MnSO₄), which is extensively used in agricultural fertilizers and as a cathode material precursor in advanced battery technologies.
- **Manganese Chloride Synthesis:** Essential for the manufacturing of manganese chloride (MnCl₂), ensuring controlled reaction processes and minimizing impurity carryover in the final product.
- **Electronic-Grade Manganese Chemicals:** Supports the production of high-purity intermediate compounds vital for the electronics industry and the

development of advanced battery materials.

- **Catalyst Precursor Manufacturing:** Utilized as a high-quality manganese source in the preparation of various catalysts, where purity and consistency are paramount.
- **Fine Chemical Synthesis:** Provides a stable and reactive manganese input for a wide range of specialty and fine chemical reactions, enabling the development of innovative products.

5. Packaging & Supply

BTLnewmaterial ensures the secure and efficient delivery of MnO Reagent for High-Purity Manganese Chemical Production with the following packaging and supply options:

- **Packaging:** Available in durable 25 kg kraft paper bags, each equipped with a polyethylene (PE) inner liner to protect against moisture and maintain product integrity.
- **Bulk Options:** Jumbo bags are available for bulk industrial applications, catering to large-scale manufacturing requirements.
- **Export:** Products are provided with robust palletized export packaging, designed to ensure stability and safety during international transit.
- **Container Load Supply:** Offered in container load quantities, ensuring stable batch consistency and reliable supply for continuous chemical manufacturing operations.
- **Samples:** Sample quantities are available for laboratory testing and process validation, allowing customers to assess product suitability before large-scale adoption.

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