

TECHNICAL DATASHEET (TDS)

Product Name: EMD Powder for Primary Lithium Battery Cathode

Manufacturer: BTLnewmaterial

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CONTACT INFORMATION

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

PRODUCT DESCRIPTION

High-purity **EMD Powder for Primary Lithium Battery Cathode** is electrolytic manganese dioxide with $\geq 99.5\%$ MnO_2 specifically designed for primary lithium battery cathode manufacture. This EMD grade ensures consistent electrical performance and excellent discharge efficiency for high-load battery applications.

TECHNICAL SPECIFICATIONS

The following table outlines the key technical parameters, chemical composition, and physical properties of the product:

Parameter	Typical Range / Value
MnO ₂ Content	≥ 99.5%
Loss on Ignition (LOI)	0.5–1.2%
Particle Size (D50)	3–8 μm
Surface Area (BET)	50–120 m ² /g
Tap Density	0.4–0.6 g/cm ³
Fe (as Fe ₂ O ₃)	≤ 0.10%
Si (as SiO ₂)	≤ 0.05%
pH (1% aqueous)	6.5–8.0
Residual Chloride (Cl ⁻)	≤ 50 ppm
Water Insolubles	≤ 0.2%

KEY FEATURES

- High Purity:** ≥99.5% MnO₂ optimized for primary lithium battery cathode formulations.
- Precision Particle Size:** Uniform fine particle size (D50 3–8 μm) for consistent electrode slurry rheology.
- Enhanced Reactivity:** Controlled BET surface area (50–120 m²/g) enhancing electrochemical reactivity.
- Minimal Side Reactions:** Low impurities (Fe, Si, Cl⁻) to minimize side reactions and prolong cell shelf life.
- Stable Performance:** Stable tap density supporting repeatable coating weight and battery capacity control.
- Optimized Processing:** Good pH balance and low water insolubles for improved processing and fewer electrode defects.

APPLICATIONS

- **Primary Lithium Battery Cathodes:** Suitable for lithium-manganese dioxide (Li-MnO₂) coin, button, and cylindrical cells requiring reliable high discharge performance.
- **Industrial Battery Packs:** Compatible with automated electrode coating and assembly lines.
- **High-Load Discharge Devices:** Ideal for medical, military, and industrial single-use power supplies.
- **Consumer Electronics:** Supports long-shelf-life products such as watches, sensors, and meters.

PACKAGING & SUPPLY

- **Packaging:** Supplied in moisture-resistant kraft paper bags with inner polyethylene liners to protect against humidity.
- **Standard Sizes:** Available in 25 kg and 50 kg bags, palletized for safe export shipment.
- **Customization:** Customized packaging (e.g., liners with desiccant, fiber drums) is available upon request.
- **Technical Support:** Adjustable particle size distribution and impurity limits are available to meet specific cathode formulation needs.

Note: The information provided in this Technical Datasheet is based on our current knowledge and experience. It is the user's responsibility to test the product and ensure its suitability for their specific application.