

Technical Data Sheet

Manganese Dioxide for Specialty Magnetic Coatings

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1. Product Description

Manganese Dioxide for Specialty Magnetic Coatings is a high-purity MnO₂ powder designed for use in magnetic coating formulations and functional electronic coatings. With typical purity above 90–95%, it provides stable oxidation states and controlled particle morphology. The material supports consistent dispersion and improves coating performance in magnetic and conductive systems.

2. Technical Specifications

Parameter	Typical Value
MnO ₂ Purity	90–95%
Particle Size (D50)	2–8 μm
Surface Area	35–70 m ² /g
Moisture	≤ 1.0%
Bulk Density	0.45–0.75 g/cm ³
Crystal Phase	Predominantly γ-MnO ₂

3. Key Features

- High chemical stability ensures reliable performance in advanced magnetic coating systems.

- Controlled particle size distribution supports uniform dispersion in polymer or resin matrices.
- High surface reactivity improves interaction between MnO₂ particles and coating binders.
- Consistent purity levels reduce formulation variability in industrial coating production.
- Provides stable electrochemical and magnetic performance in functional coating layers.
- Powder form allows easy mixing, filtration, and processing in coating manufacturing lines.

4. Applications

- **Magnetic recording coatings:** MnO₂ improves oxidation stability and supports consistent magnetic performance in functional layers.
- **Functional electronic coatings:** The material contributes to conductivity control and surface reactivity in specialized coatings.
- **Anti-static industrial coatings:** MnO₂ particles assist in dissipating static charges in electronic device housings.
- **Electromagnetic shielding coatings:** The oxide structure helps improve attenuation performance in EMI-resistant coatings.
- **Precision coating formulations:** Provides stable particle dispersion for consistent film properties.

5. Packaging & Supply

Standard packaging is **25 kg fiber drums with inner PE liners** to prevent moisture contamination. The material is suitable for **export packaging and palletized shipping** for international industrial supply. **Laboratory samples** are available for coating formulation testing and compatibility evaluation.

6. Customization & Technical Support

We offer adjustable particle size distribution, surface area targets, and impurity limits to meet specific cathode formulation needs. Technical support includes process

parameter recommendations, batch analysis reports, and collaboration on slurry formulation optimization. Our engineering team can assist with QA/QC integration and performance testing data for seamless production scaling.