

Technical Datasheet (TDS)

Ultra-Low Impurity Manganese Oxide for Soft Magnetic Materials

1. Company Information

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2. Product Description

Ultra-low impurity manganese oxide is specifically engineered for the production of high-performance soft magnetic materials. It features strictly controlled trace element levels and consistent MnO purity, which are essential for ensuring stable magnetic performance in ferrite cores and various electronic components.

3. Key Features

- **Ultra-Low Impurity Levels:** Ensures high magnetic permeability and significantly reduces core loss.
- **High MnO Purity:** Supports the formation of a consistent ferrite phase during manufacturing.
- **Controlled Trace Elements:** Minimizes interference with intrinsic magnetic properties.

- **Uniform Particle Size:** Fine distribution (D50: 1–5 μm) improves sintering behavior and densification.
- **Stable Composition:** Guarantees repeatable batch performance for industrial-scale production.

4. Technical Specifications

Parameter	Specification / Typical Value
MnO Purity	$\geq 99.0\%$
Manganese (Mn) Content	$\geq 76.0\%$
Iron (Fe) Content	$\leq 0.01\%$
Silicon Dioxide (SiO_2)	$\leq 0.02\%$
Calcium Oxide (CaO)	$\leq 0.01\%$
Particle Size (D50)	1.0 – 5.0 μm
Moisture (H_2O)	$\leq 0.5\%$
Loss on Ignition (LOI)	$\leq 0.3\%$

5. Physical Properties

- **Appearance:** Fine green/brownish powder (typical of Manganese(II) Oxide).
- **Odor:** Odorless.
- **Solubility:** Insoluble in water; soluble in acids.

6. Applications

- **Soft Ferrite Cores:** Ideal for Mn-Zn and Ni-Zn ferrites used in inductors and transformers.
- **High-Frequency Components:** Supports low core loss and stable permeability in high-frequency environments.
- **Electronic Ceramics:** Acts as a high-purity manganese source for functional ceramic materials.

- **Magnetic Core Manufacturing:** Ensures consistency and reliability in high-end electronic applications.

7. Packaging & Supply

- **Standard Packaging:** 25 kg sealed bags with a moisture-proof inner liner.
- **Export Packaging:** Palletized for safe international shipment.
- **Supply Ability:** Bulk supply available for large-scale ferrite manufacturers.
- **Samples:** Available upon request for material validation and laboratory testing.

Disclaimer: The information provided in this Technical Datasheet is based on our current knowledge and experience. Users should conduct their own tests to determine the suitability of the product for their specific applications.