

Technical Data Sheet (TDS)

Manganese Oxide (MnO) - Scavenger for Steel Smelting

1. Company Information

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2. Product Description

Manganese Oxide (MnO) is a high-purity inorganic compound specifically engineered as a scavenger for steel smelting processes. It appears as a green to grayish-green powder or crystalline solid. In the steel industry, it plays a critical role in deoxidation and desulfurization, significantly improving the cleanliness and quality of molten steel.

3. Key Features

- High Efficiency:** High manganese content ($\geq 36\%$) ensures effective absorption of oxygen and sulfur.
- Impurity Control:** Low levels of heavy metals (As, Pb, Cd) meeting stringent industrial safety standards.
- Optimized Particle Size:** Mesh size (80–200 mesh) designed for uniform feeding and prevention of segregation in furnace systems.

- **Stability:** Chemically stable under normal storage conditions with a long shelf life.
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4. Technical Parameters & Chemical Composition

Item	Specification
Chemical Formula	MnO
CAS No.	1344-43-0
Manganese (Mn) Content	≥ 36.0%
Arsenic (As)	≤ 5 ppm
Lead (Pb)	≤ 10 ppm
Cadmium (Cd)	≤ 5 ppm
Particle Size	80 – 200 Mesh
Appearance	Green to Grayish-green Powder

5. Physical Properties

Property	Value
Molar Mass	70.9374 g/mol
Density	5.43 g/cm ³
Melting Point	1,842 °C (3,348 °F)
Solubility in Water	Insoluble
Solubility in Acids	Soluble (forms manganese salts)

6. Applications

- **Steel Smelting:** Used as a scavenger to remove excess oxygen and sulfur from molten steel.

- **Slag Formation:** Enhances slag fluidity and stability, improving metal recovery rates.
 - **Alloying Agent:** Provides a controlled source of manganese to stabilize manganese levels in various steel grades.
 - **Industrial Catalyst:** Utilized in certain chemical synthesis and environmental applications.
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7. Packaging & Supply

- **Standard Packaging:** 25 kg bags, 50 kg drums, or 1000 kg jumbo bags (customizable upon request).
- **Storage Conditions:** Store in a cool, dry, and well-ventilated warehouse. Keep away from incompatible substances (strong acids/oxidizers).
- **Shelf Life:** 24 months when stored in original, unopened packaging under recommended conditions.
- **Supply Ability:** Consistent supply for large-scale industrial smelting operations.