

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Manganese Dioxide
- English Name: Manganese Dioxide
- CAS Number: 1313-13-9
- Formula: MnO₂
- Molecular Weight: 86.94 g/mol
- Product Characteristics: High-purity black fine powder, odorless, strong oxidizing agent. Excellent catalytic activity and depolarizing performance. Insoluble in water, stable under normal storage conditions.

2. Technical Specifications

Item	Specification
Appearance	Black fine powder
Purity (MnO ₂)	≥ 90.0%
Mn Content	60.0-63.0%
Moisture Content	≤ 1.0%
Iron (Fe)	≤ 0.5%
Heavy Metals (Pb)	≤ 0.002%
Heavy Metals (As)	≤ 0.001%
Water Insoluble Matter	≤ 0.5%
Acid Insoluble Matter	≤ 0.3%
Particle Size	1-20 μm
Oxidizing Activity	Meets industrial standards
Battery Performance	Meets dry cell battery requirements

3. Product Advantages

- High purity and strong oxidizing/catalytic activity.
- Excellent depolarizing performance for battery applications.
- Good heat stability and chemical resistance.
- Versatile application in battery, catalyst, and water treatment industries.
- Consistent quality with strict batch testing.

4. Application Fields

- Battery Industry: Depolarizer for zinc-carbon batteries, alkaline batteries, lithium-ion batteries.
- Catalyst: Oxidation reactions, environmental catalysts (VOCs degradation), chemical synthesis.
- Water Treatment: Iron and manganese removal from groundwater; disinfection auxiliary.
- Chemical Industry: Oxidizing agent for organic synthesis (e.g., phenol production).
- Pigments & Ceramics: Black pigment for ceramics, glass, and coatings.
- Other: Metal polishing, pyrotechnics, laboratory reagent.



NEWAY SINOPHC TECH. LIMITED

ADD:RM. 204, BUILDING 3, NO. 188, AONA RD., CHINA (SHANGHAI) PILOT FREE TRADE ZONE.
Email:marketing01@newayphc.com; Phone:+86-021-50350029 <https://www.newayphc.com>

5. Usage Methods

- Battery Production: Mix 20-40% with other battery materials (zinc powder, electrolyte, etc.).
- Water Treatment: Add 5-20 ppm to groundwater, stir and filter.
- Catalyst: Add 0.5-5% (mass ratio) to reaction system, heat as required.
- Optimal Conditions: Use at 20-40°C; avoid mixing with reducing agents and combustibles.

6. Packaging & Storage

- Packaging Specifications: 10 kg/bag (plastic-lined kraft bag), 25 kg/drum (HDPE), 1000 kg/IBC tote.
- Storage Conditions: Store in cool, dry, well-ventilated warehouse. Keep container tightly closed. Separate from reducing agents, combustibles, and acids. Temperature $\leq 30^{\circ}\text{C}$.
- Shelf Life: 24 months (unopened).
- Transportation: Handle as UN1463, avoid collision and moisture.

7. Safety & Protection

- Wear respiratory protection (P2/N95 mask), protective gloves, and safety goggles during handling.
- Operate in well-ventilated area; avoid dust inhalation.
- Keep away from reducing agents, combustibles, and acids.
- Prevent release to waterways; dispose of waste properly.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Battery-grade products meet international battery industry standards.
- Each batch accompanied by COA.

纳维盛医化科技
NEWAY SINOPHC TECH