

# BTL New Material

---

## Technical Datasheet: High-Purity Activated Manganese Dioxide (MnO<sub>2</sub>)

---

**Product Name:** Activated Manganese Dioxide, High-Purity Grade

**Chemical Formula:** MnO<sub>2</sub>

**CAS No.:** 1313-13-9

**Website:** [manganesesupply.com](http://manganesesupply.com) **Contact Email:** [lixifirm@outlook.com](mailto:lixifirm@outlook.com) **Phone:** +86  
182 7379 3022

### 1. Product Description

---

Our High-Purity Activated Manganese Dioxide is an insoluble, black, amorphous powder specifically developed for critical applications such as pharmaceutical synthesis and fine chemical manufacturing. Produced through a refined chemical process, this grade boasts exceptional purity, superior catalytic activity, and a finely controlled particle size, making it an outstanding oxidizing agent for reactions demanding high efficiency, selectivity, and minimal impurity introduction.

## 2. Chemical & Physical Properties

Parameter	Specification	Typical Value	Test Method
MnO <sub>2</sub> Content	≥ 99.0%	99.23%	Titration
Particle Size (D50)	≤ 5 μm	2.06 μm	Laser Diffraction
Calcium (Ca)	≤ 100 ppm	92 ppm	ICP-OES
Magnesium (Mg)	≤ 300 ppm	216 ppm	ICP-OES
Sodium (Na)	≤ 100 ppm	55 ppm	ICP-OES
Lead (Pb)	≤ 40 ppm	7 ppm	ICP-OES
Potassium (K)	≤ 200 ppm	34 ppm	ICP-OES
Iron (Fe)	≤ 400 ppm	182 ppm	ICP-OES
Titanium (Ti)	≤ 100 ppm	1.66 ppm	ICP-OES
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	≤ 1000 ppm	625 ppm	Gravimetric
HCl Insoluble	≤ 800 ppm	665 ppm	Gravimetric
Appearance	Fine Black Powder	Conforms	Visual

## 3. Key Features & Benefits

- **Ultra-High Purity (≥99.0%):** With a typical assay of 99.23%, this grade significantly reduces potential side reactions and impurities, crucial for sensitive pharmaceutical syntheses.
- **Exceptional Reactivity:** The extremely fine particle size (D50 of 2.06 μm) and high surface area contribute to enhanced reaction kinetics, allowing for reduced stoichiometric excess and improved process efficiency.
- **Low Impurity Profile:** Stringent control over heavy metals and other elemental impurities ensures suitability for the most demanding applications, including pharmaceutical and high-purity chemical manufacturing.

- **Consistent Quality:** Manufactured under strict quality control, ensuring batch-to-batch consistency in physical and chemical properties.

## 4. Recommended Applications

---

- Highly selective oxidation of alcohols (allylic, benzylic, propargylic) to aldehydes and ketones.
- Dehydrogenation reactions in complex organic synthesis.
- Specialized applications requiring a high-purity, high-activity oxidizing agent.
- Pharmaceutical intermediates and active pharmaceutical ingredient (API) synthesis.

## 5. Packaging & Storage

---

- **Standard Packaging:** 25 kg net weight in fiber drums with inner PE liner. Custom packaging (including sample sizes) is available upon request.
- **Storage:** Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed to prevent moisture absorption and maintain product integrity.

**Disclaimer:** The information provided in this technical datasheet is based on our current knowledge and experience. It is intended for use by technically skilled persons at their own discretion and risk. We assume no liability in connection with any use of this information.