

Technical Data Sheet

BTLnewmaterial

Website: manganesesupply.com Phone / WhatsApp: +86 182 7379 3022 Email: lixifirm@outlook.com

Room 706, No. 154, Wuyi East Road, Niezhou Residential Committee, Caizichi Sub-district Office, Leiyang City, Hengyang City, Hunan Province, China

High Specific Surface Area Manganese Dioxide (MnO₂) for Gas-Phase Catalysis

1. Product Identification

Item	Value
Product Name	High Specific Surface Area Manganese Dioxide for Gas-Phase Catalysis
Chemical Formula	MnO ₂
CAS Number	1313-13-9
Appearance	Black powder
Product Grade	Catalytic grade / Battery-grade derivative

2. Description

This high specific surface area manganese dioxide is produced by an electrolytic process and is engineered for gas-phase catalytic applications. Its high surface area and controlled pore structure make it suitable for catalytic oxidation, decomposition reactions, air purification, VOC removal, and other heterogeneous gas-phase catalysis processes.

3. Typical Physical and Chemical Properties

Property	Unit	Specification	Typical Value
MnO ₂ content	%	≥91.0	91.4
Moisture (H ₂ O)	%	≤3.0	2.8
pH (distilled water method)	—	5.0–7.0	6.8
Bulk density	g/cm ³	≥1.5	1.51
HCl insoluble matter	%	≤0.1	<0.05
Sulfate (SO ₄ ²⁻) content	%	≤1.3	1.1

4. Trace Element Analysis

Element	Unit	Specification	Typical Value
Iron (Fe)	μg/g	≤80	43
Copper (Cu)	μg/g	≤5.0	0.5
Lead (Pb)	μg/g	≤5.0	2.5

Cobalt (Co)	µg/g	≤5.0	3.8
Nickel (Ni)	µg/g	≤5.0	1.4
Potassium (K)	µg/g	≤500	490
Sodium (Na)	µg/g	≤4000	3400
Molybdenum (Mo)	µg/g	≤20	3.0
Arsenic (As)	µg/g	≤20	17
Antimony (Sb)	µg/g	≤20	19
Calcium (Ca)	µg/g	≤800	234
Magnesium (Mg)	µg/g	≤800	281
Titanium (Ti)	µg/g	≤120	22
Chromium (Cr)	µg/g	≤100	5.2
Vanadium (V)	µg/g	≤20	9.5
Aluminum (Al)	µg/g	≤100	9.0
Ammonium (NH ₄ ⁺)	µg/g	≤80	76

5. Particle Size Distribution

Sieve / Size	Unit	Specification	Typical Value
+40 mesh (>420 µm)	%	—	—
+100 mesh (>150 µm)	%	≤0.3	<0.05
–200 mesh (<75 µm)	%	≥97	99.67
–325 mesh (<45 µm)	%	≥75	85.51

6. Packaging and Storage

Packaging: 25 kg net per woven polypropylene bag with inner polyethylene liner. Bulk packaging and custom labeling available on request.

Storage: Store in a dry, ventilated warehouse away from moisture, heat, and acids.

Shelf Life: 2 years when stored under recommended conditions.

7. Safety and Handling

Avoid inhalation of dust. Use appropriate personal protective equipment such as a dust mask, safety goggles, and gloves. Keep containers tightly closed when not in use. Refer to the Safety Data Sheet (SDS) for detailed handling, transport, and disposal information.

8. Applications

- Catalytic oxidation of gaseous pollutants
- Catalytic decomposition processes
- Air and gas purification
- VOC removal systems
- Other heterogeneous gas-phase catalytic reactions

Disclaimer: The values listed in this Technical Data Sheet are typical analytical results from a representative production batch and are intended as guidance only. Actual values may vary slightly between batches. Customers are advised to request a Certificate of Analysis (CoA) for each shipment.

BTLnewmaterial

Website: manganesesupply.com | Phone / WhatsApp: +86 182 7379 3022 | Email: lixifirm@outlook.com
Room 706, No. 154, Wuyi East Road, Niezhou Residential Committee, Caizichi Sub-district Office, Leiyang City, Hengyang City, Hunan Province, China