

# Technical Datasheet

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## 1. Product Description

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Granular Manganese Dioxide for Groundwater Arsenic Treatment is an engineered inorganic media with high purity MnO<sub>2</sub> content ( $\geq 85\%$ ) designed for arsenic removal in water treatment systems. This granular manganese dioxide media offers consistent particle size and chemical activity for efficient oxidation and adsorption of arsenic species in groundwater applications.

## 2. Technical Specifications

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Parameter	Typical Range / Value
Chemical Composition	MnO <sub>2</sub> $\geq 85\%$
Form	Granular media
Particle Size Range	0.3 – 2.5 mm
Bulk Density	1.8 – 2.2 g/cm <sup>3</sup>
Moisture Content	$\leq 5.0\%$
pH Stability	6.5 – 9.5 (service range)
Operating Temperature	4 – 50 °C
Typical Bed Depth	24 – 48 inches
Arsenic Adsorption Capacity	5 – 18 mg As per g MnO <sub>2</sub> *
Chloride Content	$\leq 0.2\%$

\*Adsorption capacity varies with groundwater composition and design conditions.

## 3. Key Features

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- High MnO<sub>2</sub> purity (>85%) for effective arsenic oxidation and removal.
- Granular manganese dioxide media with controlled size distribution for uniform hydraulic performance.
- Stable under typical groundwater pH and temperature ranges.
- Excellent oxidation potential for As(III) → As(V) conversion, improving treatment efficiency.
- Low leachable impurities to maintain finished water quality.
- Suitable as a catalytic media in packed-bed and fixed-bed arsenic removal systems.

## 4. Applications

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- **Groundwater Arsenic Treatment:** Used as granular media in filtration systems to oxidize and adsorb arsenic species for potable water compliance.
- **Iron & Manganese Removal Systems:** Supports simultaneous removal of iron, manganese, and arsenic when integrated into multi-contaminant water treatment trains.
- **Catalytic Oxidation Filters:** Functions as a catalytic bed in pressure filters for oxidation of dissolved contaminants.
- **Municipal and Industrial Water Treatment:** Applicable in treatment plants where arsenic and related redox-sensitive contaminants are present.

## 5. Packaging & Supply

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Available in industry-standard packaging to support logistics and handling:

- **25 kg kraft bags with PE liner** for unit load shipments.
- **1,000 kg FIBCs (bulk bags)** for large-scale projects and continuous operations.

All packaging is moisture-resistant and suitable for export. Shipment support includes CNF/CIF arrangements and compliance documentation for international transport.

## 6. Customization & Technical Support

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We offer **customized particle size distributions and tailored bed specifications** to match specific groundwater conditions and treatment system designs. Engineering support is available for media selection, system integration guidance, and performance optimization to meet project performance targets for arsenic removal efficiency.