Technical Data Sheet (TDS)

High Surface Area MnO Powder for Gas Desulfurization

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1. Product Description

High Surface Area MnO Powder for Gas Desulfurization is a specialized manganese(II) oxide material engineered for the efficient removal of sulfur compounds from industrial gas streams. With an optimized specific surface area and controlled purity, this product ensures high reactivity and stable performance in various gas desulfurization systems. It is designed to meet stringent environmental regulations and protect downstream processes from sulfur poisoning.

2. Key Features

- **High Specific Surface Area:** Features a specific surface area ranging from 30–80 m^2/g, which significantly enhances the gas-solid reaction efficiency for sulfur removal.
- **Strong Reactivity:** Exhibits robust reactivity with hydrogen sulfide (H_2S) and other sulfur-containing gases, ensuring effective capture and conversion.
- **Low Impurity Levels:** Controlled levels of impurities, such as iron (Fe $\leq$ 0.5%) and lead (Pb $\leq$ 10 ppm), ensure stable catalytic and desulfurization performance, preventing side reactions and maintaining system integrity.
- **Controlled Particle Size:** An optimized particle size distribution (100–300 mesh) facilitates uniform flow and contact in both fixed-bed and fluidized-bed reactor systems.

- **High Mechanical Stability:** Designed to withstand industrial operating conditions, ensuring long-term performance and reduced material degradation.
- **Consistent Sulfur Removal Efficiency:** Guarantees reliable and consistent removal of sulfur compounds, helping industries meet emission standards and protect sensitive equipment.

3. Technical Specifications

The following table outlines the key technical parameters and chemical composition of BTLnewmaterial's High Surface Area MnO Powder for Gas Desulfurization:

Parameter	Typical Value
MnO Purity	≥ 90–95%
Manganese (Mn) Content	≥ 60%
Specific Surface Area	≥ 30–80 m^2/g
Particle Size	100–300 mesh
Moisture	≤ 1.5%
Bulk Density	0.8–1.3 g/cm^3
Sulfur Removal Efficiency	≥ 90%
Iron (Fe)	≤ 0.5%
Lead (Pb)	≤ 10 ppm

Note: The high specific surface area and strong sulfur removal efficiency are critical for effective gas desulfurization applications.

4. Applications

- **Industrial Gas Desulfurization:** Primarily used for removing H_2S and other sulfur compounds from various industrial process gases, ensuring compliance with environmental regulations.

- **Natural Gas Purification:** Enhances the quality of natural gas by effectively reducing sulfur contaminants, which is crucial for downstream processing and end-use applications.
- **Chemical Processing Plants:** Protects sensitive downstream catalysts from sulfur poisoning, thereby extending catalyst lifespan and maintaining process efficiency.
- **Syngas Treatment:** Ensures a cleaner feedstock for critical synthesis processes, such as ammonia or methanol production, by removing sulfur impurities.
- **Fixed-Bed Reactors:** Ideal for use in fixed-bed reactors, providing continuous and efficient sulfur removal in large-scale industrial operations.

5. Packaging & Supply

- **Standard Packaging:** Available in durable 25 kg kraft paper bags, each equipped with an inner PE liner to protect the product from moisture and maintain its integrity.
- **Bulk Packaging:** Offered in 500–1000 kg jumbo bags for large-scale handling and efficient transportation, catering to industrial demands.
- **Export Packaging:** Palletized export packaging is provided to ensure secure and compliant international shipments.
- **Bulk Supply:** Available for continuous industrial use, supporting uninterrupted operations in gas treatment plants.
- **Samples:** Product samples are readily available for desulfurization performance testing, allowing customers to validate efficacy and compatibility in their specific systems.