Technical Datasheet: Manganese Dioxide for Dehydrogenation Reactions

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1. Product Description

Manganese Dioxide for Dehydrogenation Reactions is a high-purity, fine-controlled MnO_2 grade developed for oxidative dehydrogenation in organic synthesis. This product offers adjustable particle size and surface area to enhance reaction efficiency, making it suitable for pharmaceutical intermediates and fine chemical manufacturing under reflux conditions.

2. Technical Specifications

Parameter	Typical Value
MnO_2 content (wt%)	90.0 – 98.5
Mn content (wt%)	60.0 – 63.5
Crystal structure	Amorphous / γ-MnO_2
BET surface area	30 – 120 m^2/g
Particle size (D50)	2 – 20 µm (customizable)
Bulk density	0.4 – 1.1 g/cm^3
Moisture (105 °C)	≤ 1.0%
Fe_2O_3	≤ 0.05%
Pb	≤ 20 ppm
Loss on ignition	≤ 3.0%

3. Key Features

- Fine particle size grades available for Manganese Dioxide for Dehydrogenation Reactions requiring high surface contact.
- Adjustable milling to supply targeted D50 values such as ~2 µm or ~6 µm for process optimization.
- Stable chemical reactivity suitable for large excess loading in production-scale reactions.
- Low metallic impurities to reduce catalyst poisoning and side reactions.
- Consistent batch quality to support scale-up from laboratory to industrial production.

4. Applications

- Alcohol to aldehyde or ketone conversion using Manganese Dioxide for Dehydrogenation Reactions in aromatic and aliphatic systems.
- Oxidative dehydrogenation of heterocycles and complex organic intermediates.
- Pharmaceutical synthesis where reaction efficiency and reproducibility are critical.
- Fine chemical production involving solid–liquid oxidation under reflux conditions.

5. Packaging & Supply

- 25 kg fiber drums or kraft bags with PE inner liner.
- Export-grade palletization and moisture-protected packaging.
- Suitable for long-distance sea shipment and air freight.

6. Customization & Technical Support

- Particle size, surface area, and MnO_2 purity adjustable based on reaction requirements.
- Technical support for MnO_2 loading optimization and filtration behavior evaluation.
- Full documentation provided, including COA, MSDS, and impurity analysis.
- Support for laboratory trials, pilot testing, and long-term supply programs.