

Technical Data Sheet: Manganese Dioxide Drier

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1. Product Description

Manganese Dioxide Drier for Oil-Based Paints and Varnishes is a catalytic MnO₂ powder specifically engineered to accelerate oxidative curing processes in alkyd and drying-oil coating systems. With a typical MnO₂ purity ranging from 85% to 92%, this grade effectively promotes faster polymerization of unsaturated oils and enhances film formation in various industrial paints and varnishes. It is widely adopted by coating formulators to improve drying performance while ensuring stable coating quality.

2. Key Features

- High catalytic activity, leading to rapid oxidative curing in oil-based coating systems.
- Significantly enhances both surface drying and through-drying characteristics of alkyd and drying oil formulations.
- Consistent MnO₂ purity guarantees reproducible curing performance across different batches.
- High specific surface area facilitates improved oxygen activation and film-forming reactions.
- Enables efficient drying even at low additive concentrations.
- Fine particle morphology ensures easy dispersion within coating formulations.

3. Applications

- **Alkyd Resin Paints:** Accelerates the oxidation of unsaturated oils, thereby reducing the drying time of industrial coatings.
- **Oil-Based Varnishes:** Promotes the polymerization of drying oils to form durable protective films.
- **Wood Coatings and Furniture Finishes:** Improves curing speed and hardness development in solvent-based finishes.
- **Anti-Corrosion Coatings:** Facilitates faster film formation on steel surfaces, enhancing productivity in coating lines.
- **Printing Inks:** Catalytic manganese compounds aid in accelerating film formation in oil-based ink systems.
- Suitable for a broad range of alkyd or drying-oil formulations requiring controlled oxidative curing.

4. Technical Specifications

Parameter	Typical Value
MnO ₂ Purity	85–92%
Particle Size (D50)	3–10 μm
Specific Surface Area	35–70 m ² /g
Moisture Content	≤ 1.0%
Bulk Density	0.6–0.9 g/cm ³
Crystal Phase	Predominantly γ-MnO ₂

5. Packaging & Supply

- **Standard Packaging:** 25 kg fiber drum with a PE inner liner.
- **Export Packaging:** Designed to provide moisture protection and ensure safe international shipment.

- **Laboratory Samples:** Available in quantities of 100 g to 1 kg for formulation testing and evaluation.

6. Customization & Technical Support

The manufacturer offers comprehensive technical support to coating formulators, including:

- Adjustment of particle size to meet specific dispersion requirements.
- Customization of purity or activity for specialized coating systems.
- Bulk supply options for industrial coating production.
- Technical consultation for optimizing catalyst dosage in paint formulations.