Technical Data Sheet

Fine Ground MnO_2 for Anti-Corrosive Industrial Coatings

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1. Product Description

Fine Ground MnO_2 for Anti-Corrosive Industrial Coatings is a micronized manganese dioxide powder specifically engineered as a functional additive for protective coating formulations. With a typical MnO_2 purity exceeding 90%, this product significantly enhances corrosion resistance, coating stability, and barrier performance in various industrial protective coatings, including epoxy and polyurethane systems. Its fine particle size ensures uniform dispersion throughout the coating matrix, leading to improved coating durability and extended service life.

2. Key Features

- **Fine Particle Morphology:** Enables uniform dispersion within epoxy, polyurethane, and alkyd coating systems, ensuring consistent film formation.
- **High Chemical Stability:** Contributes to long-term corrosion protection of metal substrates by resisting chemical degradation.
- **Large Surface Area:** Enhances the barrier performance of coatings, effectively inhibiting ionic penetration and reducing corrosion current density.
- **Consistent MnO_2 Purity:** Guarantees stable and reliable coating performance across different production batches.
- **Improved Film Integrity:** Enhances the mechanical stability and structural integrity of coating films.
- **Broad Compatibility:** Compatible with a wide range of resin systems commonly used in marine, infrastructure, and heavy-duty coating applications.

3. Applications

- **Anti-corrosion epoxy coatings:** Significantly improves barrier protection against moisture and corrosive ions on steel structures.
- **Marine protective coatings:** Enhances resistance to saltwater exposure and provides long-term environmental corrosion protection.
- **Industrial equipment coatings:** Stabilizes coating films in chemically aggressive environments, extending equipment lifespan.
- **Pipeline protective coatings:** Improves coating durability and mechanical stability, crucial for harsh operating conditions.
- **Zinc-rich or composite coatings:** Contributes to enhanced corrosion resistance and improved coating adhesion in these specialized formulations.

4. Technical Specifications

Parameter	Typical Value
MnO_2 Purity	90–95%
Particle Size (D50)	2–8 μm
Surface Area	25–60 m^2/g
Moisture	≤1.5%
Bulk Density	0.6–0.9 g/cm^3
Crystal Phase	Mainly γ-MnO_2

5. Packaging & Supply

- **Standard Packaging:** 25 kg fiber drums with inner PE liners, designed for secure storage and transport.
- **Export Packaging:** All packaging is suitable for international shipping and long-distance transport, ensuring product integrity upon arrival.
- **Laboratory Samples:** Available in quantities of 100 g to 1 kg for comprehensive coating formulation testing and evaluation.

6. Customization & Technical Support

BTLnewmaterial offers comprehensive manufacturing support, including:

- **Particle Size Customization:** Tailored particle sizes to meet specific coating formulation requirements.
- **Adjustable MnO_2 Purity Levels:** Purity levels can be adjusted based on the demands of various applications.
- **Bulk Supply:** Available for large-scale coating production needs.
- **Technical Consultation:** Expert guidance for coating formulation development and dispersion optimization to achieve optimal performance.