

Technical Data Sheet (TDS)

1. Product Overview

- Product Name: Copper(II) Oxide
- English Name: Copper(II) Oxide
- CAS Number: 1317-38-0
- Formula: CuO
- Molecular Weight: 79.55 g/mol
- Product Characteristics: High-purity black fine powder, odorless, chemically stable. Excellent catalytic activity, heat resistance, and pigment properties. Insoluble in water, soluble in dilute acids.

2. Technical Specifications

Item	Specification
Appearance	Black fine powder
Purity (CuO)	≥ 99.0%
Cu Content	79.5-80.5%
Moisture Content	≤ 0.5%
Heavy Metals (Pb)	≤ 0.001%
Heavy Metals (As)	≤ 0.0005%
Iron (Fe)	≤ 0.005%
Water Insoluble Matter	≤ 0.1%
Acid Insoluble Matter	≤ 0.05%
Particle Size	1-5 μm
Heat Resistance	≥ 1200°C (no decomposition)
Catalytic Activity	Meets industrial catalyst standards

3. Product Advantages

- High purity and consistent particle size ensure stable performance.
- Excellent catalytic activity for chemical reactions.
- Good heat resistance and color stability as pigment.
- Versatile application in catalyst, pigment, and electronic industries.
- Feed-grade option available (meets animal feed safety standards).

4. Application Fields

- Catalyst: Oxidation-reduction reactions, hydrogenation reactions, environmental catalysts (NOx removal).
- Pigments & Ceramics: Black pigment for ceramics, glass, and coatings.
- Electronic Materials: Semiconductor materials, battery electrodes, superconductors.
- Pharmaceutical & Chemical: Intermediate for copper-containing drugs, chemical synthesis.
- Feed Additive: Copper supplement for livestock and poultry feed (feed grade).



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- Other: Metal polishing, glass coloring, magnetic materials.

5. Usage Methods

- Catalyst: Add 0.1-5% (mass ratio) to reaction system, mix evenly.
- Pigment: Add 5-15% to ceramic glaze or coating base, stir thoroughly.
- Feed Additive: Mix 100-500 ppm into feed (follow national feed safety standards).
- Optimal Conditions: Use at 20-30°C; avoid mixing with strong reducing agents.

6. Packaging & Storage

- Packaging Specifications: 5 kg/bag (plastic-lined kraft bag), 25 kg/drum (HDPE), 1000 kg/IBC tote.
- Storage Conditions: Store in cool, dry, well-ventilated warehouse. Avoid moisture and direct sunlight. Temperature $\leq 30^{\circ}\text{C}$.
- Shelf Life: 36 months (unopened).
- Transportation: Handled as non-dangerous goods; avoid collision and moisture.

7. Safety & Protection

- Wear dust mask, protective gloves, and safety goggles during handling.
- Avoid dust inhalation and eye contact; rinse immediately if contact occurs.
- Prevent release to waterways; dispose of waste properly.

8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Feed-grade products meet national feed safety standards.
- Each batch accompanied by COA.

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