

## Technical Data Sheet (TDS)

### 1. Product Overview

- Product Name: Calcium Oxide
- English Name: Calcium Oxide
- CAS Number: 1305-78-8
- Formula: CaO
- Molecular Weight: 56.08 g/mol
- Product Characteristics: High-purity white lump/powder, highly reactive, corrosive. Reacts violently with water to form calcium hydroxide (slaked lime) with heat release. Strong alkaline properties, excellent neutralization and desiccant capabilities.

### 2. Technical Specifications

Item	Specification
Appearance	White to off-white lump/powder
Purity (CaO)	≥ 95.0%
Ca Content	71.4-72.4%
Moisture Content	≤ 2.0%
Carbon Dioxide (CO <sub>2</sub> )	≤ 3.0%
Iron (Fe)	≤ 0.1%
Silicon (Si)	≤ 1.0%
Heavy Metals (Pb)	≤ 0.001%
Insoluble Matter in Water	≤ 0.5%
Reactivity with Water	Violent exothermic reaction

### 3. Product Advantages

- High purity and strong alkaline activity for efficient performance.
- Excellent moisture absorption and neutralization capabilities.
- Cost-effective and widely available.
- Versatile application in construction, agriculture, and chemical industries.

### 4. Application Fields

- Construction: Raw material for cement, mortar, and concrete; soil stabilization.
- Water Treatment: pH adjustment, wastewater neutralization, phosphorus removal.
- Steelmaking: Flux to remove impurities (silicon, phosphorus) from molten steel.
- Agriculture: Soil amendment (neutralize acidic soil), fertilizer additive.
- Chemical Industry: Production of calcium hydroxide, calcium carbonate, and other chemicals.
- Other: Desiccant (for gases and liquids), paper bleaching, food processing (pH adjustment, food grade).

### 5. Usage Methods



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- Construction: Mix with sand and water to make mortar; or add to concrete mixtures (5-10% of aggregate weight).
- Water Treatment: Dilute with water (1:10 ratio, caution: exothermic) to form slurry, add 50-200 ppm to wastewater.
- Agriculture: Spread 500-1000 kg/ha on acidic soil, mix with topsoil.
- Optimal Conditions: Use at 15-30°C; avoid contact with water and acids during storage.
- Note: Always add calcium oxide to water slowly (not vice versa) and wear protective equipment.

### 6. Packaging & Storage

- Packaging Specifications: 25 kg/bag (plastic-lined kraft bag), 50 kg/drum (HDPE), 1000 kg/IBC tote (moisture-proof).
- Storage Conditions: Store in cool, dry, well-ventilated warehouse. Use moisture-proof containers. Keep away from water, acids, and metals. Temperature  $\leq 30^{\circ}\text{C}$ .
- Shelf Life: 12 months (unopened).
- Transportation: Handle as UN1910, use moisture-proof vehicles. Avoid collision and moisture.

### 7. Safety & Protection

- Wear full chemical protective suit, nitrile gloves, chemical splash goggles, and face shield during handling.
- Operate in well-ventilated area with emergency eyewash and shower.
- Avoid contact with water, skin, eyes, and respiratory tract. In case of contact, follow first aid measures immediately.
- Do not mix with water, acids, or metals.

### 8. Quality Assurance

- Manufactured under ISO 9001 quality management system.
- Food-grade products meet FDA and national food safety standards.
- Each batch accompanied by COA.