

PRODUCT IDENTIFICATION



Product Name: Cadmium Oxide Powder Technical

CAS Number: 1306-19-0

Molecular Formula: CdO

Molecular Weight: 128.41 g/mol

Grade: Technical Grade

Purity / Concentration: Not Available

Synonyms: Cadmium(II) oxide, Cadmia

PRODUCT OVERVIEW

Alliance Chemical offers high-purity Cadmium Oxide Powder (CAS 1306-19-0) in a technical grade, characterized by an assay of 100.0% and a precise particle size of 1–2 µm. This crystalline solid serves as a critical component in industrial applications ranging from advanced electronics to specialized ceramic pigments.

Grade Significance: Technical grade indicates that this product is manufactured for industrial and commercial utility, providing a reliable balance of purity and cost-effectiveness for standard manufacturing processes.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay	%	100.0	99.5	100.5	Titration/Gravimetric
Iron	ppm	≤ 30 ppm	—	—	ICP
Lead	ppm	≤ 50 ppm	—	—	Per specification
Manganese Mn	ppm	≤ 10 ppm	—	—	ICP-OES
Nickel Ni	ppm	≤ 15 ppm	—	—	ICP-OES
Chloride (Cl ⁻)	ppm	0.0030	—	0.01	Ion chromatography
Sulfate (SO ₄ ²⁻)	ppm	0.015	—	0.05	Ion chromatography
Cadmium Cd	ppm	≥ 870000 ppm	—	—	ICP-MS
Loss On Ignition	%	≤ 0.5 %	—	—	Gravimetric (1000°C)
Particle Size	µm	1 – 2 µm	—	—	Sieve Analysis

ND = Not Detected. Values are typical and may vary by lot.

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Crystalline solid	Odor	Odorless
Form	Solid	Boiling Point	2838 °F at 760 mmHg (sublimes) (NTP, 1992)
Melting / Freezing Point	Greater than 2732 °F (EPA, 1998)	Specific Gravity	1.5
Solubility	Soluble in water	Molecular Formula	CdO
Molecular Weight	128.41 g/mol	Density (25°C)	8.15 g/mL

APPLICATIONS

1. **Ceramics and Glass** — Used as a high-performance pigment to achieve vibrant, stable coloration in specialized ceramic glazes and glass products.
2. **Electronics** — Functions as a semiconductor material, leveraging its unique electrical properties for the development of electronic components.
3. **Energy Storage** — Essential in the manufacturing of cadmium-based batteries, where it contributes to high energy density and reliable performance.
4. **Chemical Synthesis** — Acts as an effective catalyst in specific chemical reactions to enhance reaction rates and improve overall process efficiency.

STORAGE & HANDLING

Due to its classification as toxic if swallowed and fatal if inhaled, this material must be stored in a secure, well-ventilated area to prevent accidental exposure. Proper containment prevents dust inhalation hazards and ensures that the chemical remains uncontaminated, maintaining the integrity of its technical specifications.

- Store in a cool, dry place away from incompatible materials.
- Use appropriate PPE, including gloves and masks, to avoid inhalation and skin contact.
- Keep containers tightly closed when not in use to prevent contamination.
- Avoid exposure to moisture and light to maintain product stability.
- Material compatibility includes HDPE and glass containers.

AVAILABLE PACKAGING

- 1 lbs.
- 4 lbs.
- 25 lbs.
- 50 Lbs.

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: **Danger**



Hazard Statements:

- H301: Toxic if swallowed
- H330: Fatal if inhaled
- H341: Suspected of causing genetic defects
- H350: May cause cancer
- H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
- H372: Causes damage to organs through prolonged or repeated exposure
- H410: Very toxic to aquatic life with long lasting effects

Emergency Contact: CHEMTEL - 800-255-3924 (24 Hours/Day, 7 Days/Week)

For complete safety information, refer to the Safety Data Sheet (SDS) for this product.

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