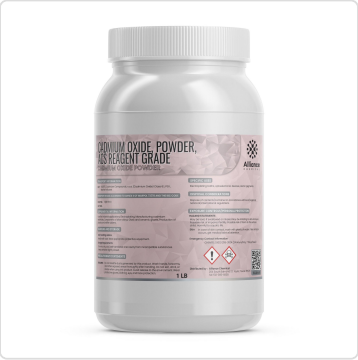
TECHNICAL DATA SHEET

Cadmium Oxide Powder ACS Reagent

Revised: 02/20/2026

PRODUCT IDENTIFICATION



Product Name: Cadmium Oxide Powder ACS Reagent
Product Code: None
CAS Number: 1306-19-0
Molecular Formula: CdO
Molecular Weight: 128.41 g/mol
Grade: ACS Grade
Purity / Concentration: Not Available
Synonyms: Cadmium(II) oxide, Cadmium oxide

PRODUCT OVERVIEW

Cadmium Oxide Powder, ACS Reagent grade, is an off-white to gray crystalline powder with a high purity, boasting an assay of 99.8%. It is commonly used as a pigment in ceramic glazes and as a component in the production of semiconductors. This material conforms to ACS specifications.

Grade Significance: ACS Grade signifies that this Cadmium Oxide meets the stringent purity requirements set by the American Chemical Society. This ensures its suitability for laboratory use and other applications where high purity is essential.

CERTIFICATE OF ANALYSIS — TYPICAL VALUES

PARAMETER	UNIT	TYPICAL	MIN	MAX	TEST METHOD
Assay (wt%)	%	99.8	99	—	Titration
Iron (Fe)	ppm	2	—	0.0010	ICP-OES
Lead (Pb)	ppm	5	—	0.0050	ICP-OES
Chloride (Cl^-)	ppm	5	—	0.0050	Ion Chromatography
Nitrate (NO_3^-)	ppm	10	—	0.0050	Ion Chromatography
Substances Not Precipitated By H2S As So4	%	0.02	—	0.1	Gravimetric
Carbonates Passes Test	Pass/Fail	Pass	—	—	ACS Test
Insoluble In Acetic Acid	%	0.0030	—	0.01	Gravimetric
Sulfur Compounds As So4	ppm	10	—	0.01	Turbidimetry

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

PHYSICAL & CHEMICAL PROPERTIES

Appearance	Off-white to gray fine crystalline powder	**Form**	Solid
Boiling Point	742°C (1368°F)	**Melting / Freezing Point**	938°C (1720°F)
Specific Gravity	1.5	**Solubility**	Slightly soluble in water, soluble in acids
Molecular Formula	CdO	**Molecular Weight**	128.41 g/mol
Decomposition Temp.	Above 600°C (thermally stable under 20°C conditions)		

APPLICATIONS

1. **Ceramics** — Cadmium Oxide is used as a pigment and flux in ceramic glazes. It helps achieve desired colors and properties in the finished ceramic products.
2. **Electronics** — This chemical serves as a component in the production of semiconductors and other electronic materials. Its properties contribute to the functionality of electronic devices.
3. **Battery Manufacturing** — Cadmium Oxide is utilized in the manufacture of cadmium-based batteries. It provides high energy density, making it suitable for battery applications.
4. **Chemical Industry** — It acts as a catalyst in various chemical reactions, enhancing reaction rates and yields. This makes it valuable in chemical synthesis processes.
5. **Laboratory Reagent** — Due to its high purity and well-defined specifications, Cadmium Oxide ACS Reagent is suitable for use in analytical and research laboratories. The low levels of impurities, such as insoluble matter, chlorides, and sulfates, ensure reliable results.

STORAGE & HANDLING

Cadmium Oxide is fatal if inhaled and suspected of causing cancer, so proper storage is crucial to prevent exposure. It should be stored in a tightly sealed container in a well-ventilated area to minimize the risk of inhalation and environmental contamination. Following proper storage guidelines ensures the safety of personnel and maintains the integrity of the product.

- Store in a cool, dry place away from incompatible materials.
- Use appropriate personal protective equipment (PPE) such as gloves and goggles.
- Ensure adequate ventilation in the storage area to avoid dust accumulation.
- Avoid exposure to moisture to maintain product integrity.
- Compatible with HDPE containers and glass.

AVAILABLE PACKAGING

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

SAFETY SUMMARY (CROSS-REFERENCE TO SDS)

Signal Word: Danger

Hazard Statements:

- H330: Fatal if inhaled [Danger Acute toxicity, inhalation]
- H341: Suspected of causing genetic defects [Warning Germ cell mutagenicity]
- H350: May cause cancer [Danger Carcinogenicity]
- H361fd: Suspected of damaging fertility; Suspected of damaging the unborn child [Warning Reproductive toxicity]
- H372 **: Causes damage to organs through prolonged or repeated exposure [Danger Specific target organ toxicity, repeated exposure]
- H400: Very toxic to aquatic life [Warning Hazardous to the aquatic environment, acute hazard]
- H410: Very toxic to aquatic life with long lasting effects [Warning Hazardous to the aquatic environment, long-term hazard]

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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