

TECHNICAL DATA SHEET

Cadmium Oxide Powder ACS Reagent

ACS Reagent

CAS NUMBER

1306-19-0

ALLIANCE CODE

cadmium-oxide-powder-acs-reagent

GENERATED

2026-08-31

REVISION

1.2

REVIEWED

2026-07-17 · Andre Taki

IDENTITY & COMPOSITION

PRODUCT NAME

Cadmium Oxide Powder ACS Reagent

ALLIANCE CODE

cadmium-oxide-powder-acs-reagent

GRADE

ACS Reagent

CONCENTRATION

—

CAS NUMBER

1306-19-0 [PubChem](#)

FORMULA

CdO [PubChem](#)

MOLECULAR WEIGHT

128.41 [PubChem](#)

PRODUCT TYPE

pure_substance

SPECIFICATIONS

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Assay (CdO)	Min 99.7%	99.9%	—	Supplier specification
Nitrate (NO3)	max. 0.01%	0.001 %	—	Supplier specification
Insoluble in hydrochloric acid	0.02% (Max.)	0.004 %	—	Supplier specification

TEST	SPECIFICATION	TYPICAL	METHOD	SOURCE
Substances not precipitated by hydrogen sulfide	0.6% (Max.)	0.04 %	—	Supplier specification
Zinc (Zn)	Max 0.001%	0.0003 %	—	Supplier specification
Chloride (Cl)	max. 0.002%	0.0003 %	—	Supplier specification
Copper (Cu)	max. 0.005%	0.0002 %	—	Supplier specification
Iron (Fe)	max. 0.002%	0.0004 %	AAS	Supplier specification
Lead (Pb)	max. 0.01%	0.0008 %	AAS	Supplier specification
Sulfate (SO4)	max. 0.20%	0.02 %	—	Supplier specification
Arsenic, antimony and thallium (total)	Max 0.002 %	0.0004 %	ICP-MS after acid digestion	Interpreted

Specification values are guaranteed limits. Typical values are representative of production lots and are not guaranteed. Lot-specific certificates of analysis ship with every order.

AVAILABLE GRADES SAME CAS, ALTERNATE GRADES AND CONCENTRATIONS

GRADE	CONCENTRATION	TYPICAL ASSAY	SKU
THIS GRADE ACS Reagent	—	—	current
Technical	—	—	cadmium-oxide-powder

Typical assay shown is the rolling-window mean from the sibling product's most recent lots. Grade selection drives downstream end-use — verify the sibling grade matches your specification before substitution.

PHYSICAL & CHEMICAL PROPERTIES

PROPERTY	VALUE	SOURCE
Appearance	Dark brown powder	Supplier specification
Form	Solid	Published reference
Odor	Odorless	Published reference
pH	9–10	Published reference
Density	8.15 g/cm ³ (crystalline); 6.95 g/cm ³ (amorphous)	Published reference
Boiling Point	~1559 °C (sublimes)	Published reference
Melting Point	~1500 °C (>2732 °F, decomposes/sublimes)	Published reference
Flash Point	Not applicable (non-combustible solid)	Published reference
Vapor Pressure	Negligible	Published reference
Solubility (water)	Insoluble in water (<1 mg/mL)	Published reference

REGULATORY & TRANSPORT

DOT / 49 CFR

UN NUMBER

UN2570 [Adjudicated](#)

PACKING GROUP

I [Adjudicated](#)

HAZARD CLASS

6.1 [Adjudicated](#)

PROPER SHIPPING NAME

Cadmium compounds (Cadmium oxide)

[Adjudicated](#)

GHS / OSHA HAZCOM 2012

SIGNAL WORD

Danger [Adjudicated](#)

H-CODES (HAZARD STATEMENTS)

H301, H330, H341, H350, H361fd, H372, H410

[Adjudicated](#)

P-CODES (PRECAUTIONARY STATEMENTS)

P201, P202, P260, P264, P270, P271, P273, P280, P281, P284, P301+P310, P304+P340, P308+P313, P310, P314, P320, P321, P330, P391, P403+P233, P405, P501

[Adjudicated](#)

OCCUPATIONAL EXPOSURE LIMITS

OSHA PEL (29 CFR 1910.1000)

0.005 mg/m³ TWA (as Cd)

[OSHA 29 CFR 1910.1000](#)

ACGIH TLV

— [no canonical](#)

NIOSH REL

Ca (carcinogen — lowest feasible concentration)

[NIOSH Pocket Guide](#)

NIOSH IDLH

9 mg/m³ (as Cd) [NIOSH Pocket Guide](#)

Transport descriptions reflect 49 CFR 172.101 lookup at time of publication. Sourced data: ECHA CLP Annex VI for harmonised classifications, NIOSH Pocket Guide for REL/IDLH, OSHA Z-Tables for PEL. Always verify against the latest regulatory text before shipment-critical decisions.

APPLICATIONS

Used as an electroplating chemical and in the manufacture of cadmium electrodes [mubychem.com](#)

Component of silver alloys, phosphors, semiconductors, glass and ceramic glazes [mubychem.com](#)

Applications are drawn from published manufacturer and supplier documentation; each is sourced. Suitability for a specific use is the buyer's to confirm.

STORAGE & HANDLING

RECOMMENDED STORAGE

Store in cool, dry and ventilated area away from heat sources and protected from sunlight in tightly closed original container. Keep air contact to a minimum.

mubychem.com

INCOMPATIBILITIES

Consult the SDS for material-specific incompatibilities.

Class-level guidance — not product-specific; the SDS controls.

For full hazard, PPE, and emergency response guidance, refer to the Safety Data Sheet (SDS) for this product. The SDS controls in all cases where guidance differs.

HANDLING PRECAUTIONS

Use standard chemical PPE — splash goggles, gloves, lab coat. Refer to SDS for hazard-specific PPE requirements.

Class-level guidance — not product-specific; the SDS controls.

SHELF LIFE

60 months lobachemie.com

PACKAGING & LOGISTICS

SHIPPING DESCRIPTION (US DOT)

UN2570, Cadmium compounds (Cadmium oxide), 6.1, PG I

Sourced from 49 CFR 172.101. Confirm against shipping documents and carrier requirements before tender.

NMFC CLASS
60

PLACARD
Toxic

PACKING GROUP
PG I

REVISION HISTORY

Last reviewed 2026-07-17 by Andre Taki, DOT Hazmat Specialist.

VERSION	DATE	CHANGE	TRIGGER
1.2	2026-07-22	Canonical data updated: 2 fields changed via the provenance/adjudication pipeline. - dotSubsidiaryHazardClass · canonical change (coa.data_provenance / adjudication) - dotProperShippingName · canonical change (coa.data_provenance / adjudication)	canonical_change

VERSION	DATE	CHANGE	TRIGGER
1.1	2026-07-17	Canonical data re-verified: 7 fields updated against independent vendor SDSs, CLP Annex VI, 49 CFR, and OSHA HazCom 2024 (GHS classification, hazard/precautionary codes, signal word, physical properties as applicable). - countryOfOrigin · canonical adjudication / reground (coa.data_provenance) - dotProperShippingName · canonical adjudication / reground (coa.data_provenance) - ghsClassification · canonical adjudication / reground (coa.data_provenance) - hazard_h_codes · canonical adjudication / reground (coa.data_provenance) - hazard_p_codes · canonical adjudication / reground (coa.data_provenance) - hsCode · canonical adjudication / reground (coa.data_provenance) - physicalProperties · canonical adjudication / reground (coa.data_provenance)	canonical_change
1.0	2026-05-20	Initial URL—first TDS published from canonical chemistry registry.	initial

This Technical Data Sheet is provided for technical reference. The Safety Data Sheet (SDS) controls in all cases where guidance differs. Values reflect Alliance Chemical canonical data at time of generation; subsequent revisions are recorded in the Revision History above.