

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Cadmium Oxide Powder ACS Reagent

Synonyms: cadmium oxide

CAS Number: 1306-19-0

Grade/Purity: ACS Reagent Grade

Product Type: Specialty Chemicals

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer/Supplier: Alliance Chemical, 204 South Edmond St, Taylor, Texas 76574

Information: 512-365-6838 | www.alliancechemical.com

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

2. HAZARDS IDENTIFICATION

Signal Word: Danger

GHS Pictograms:



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

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust, fume, gas, mist, vapours or spray.
P264	Wash hands and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, and eye/face protection.
P281	Use personal protective equipment as required.
P284	Wear respiratory protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice or attention.

P310	Immediately call a POISON CENTER or doctor.
P314	Get medical advice or attention if you feel unwell.
P320	Specific treatment is urgent (see first-aid information on this label).
P321	Specific treatment (see first-aid information on this label).
P330	Rinse mouth.
P391	Collect spillage.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents and container in accordance with local, regional, national, and international regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	% MIN	% MAX	CAS #	EINECS# / ELINCS#	FORMULA	MOLECULAR WEIGHT
Cadmium Oxide Powder	99.5	100.5	1306-19-0	215-146-2	CdO	128.41 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing. Wash with soap. Get medical attention immediately.
Inhalation	Move person to fresh air and keep comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Ingestion	Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Suitable Media	Use water spray, alcohol-resistant foam, dry chemical, or CO2. Use measures appropriate to local circumstances.
Unsuitable Media	Do not use a solid water stream as it may scatter and spread fire.
Protective Equipment	Wear self-contained breathing apparatus and full protective clothing.
Combustion Products	May include carbon oxides and other toxic fumes. See Section 10.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use PPE as described in Section 8. Ensure adequate ventilation. Evacuate personnel to safe areas.
Environmental	Prevent leakage or spillage from entering drains, sewers, or waterways.
Containment & Cleanup	Absorb with inert material. Collect in appropriate waste container. Dispose per applicable regulations.

7. HANDLING AND STORAGE

Safe Handling	Use with adequate ventilation. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use.
Safe Storage	Store in a cool, dry, well-ventilated area. Keep away from incompatible materials (see Section 10). Keep containers tightly closed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation. Provide eyewash stations and quick-drench showers accessible to areas of use.

Occupational Exposure Limits:

AGENCY	EXPOSURE LIMIT
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OSHA PEL	0.005 mg/m ³ TWA (as Cd)
NIOSH REL	Ca (carcinogen — lowest feasible concentration)
IDLH	9 mg/m ³ (as Cd)

Eyes	Wear chemical safety goggles or face shield.
Skin	Wear chemical-resistant gloves and protective clothing.
Inhalation	Use a NIOSH-approved air-purifying respirator with cartridges appropriate for the contaminant. For higher exposures or confined spaces, use supplied-air or a powered air-purifying respirator (PAPR).

Exposure limits sourced from NIOSH Pocket Guide and OSHA 29 CFR 1910.1000. Hazard classification from ECHA Classification and Labelling Inventory (CLP Annex VI).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Off-white to gray fine crystalline powder
Odor	Odorless
Median Particle Size	Not Available
Particle Size Distribution	Not Available
Particle Shape	Not Available
Surface Area	Not Available
Dustiness	Not Available
Hygroscopicity	Not Available
pH	9-10
Melting Point	~1500 °C (>2732 °F, decomposes/sublimes)
Boiling Point	~1559 °C (sublimes)
Flash Point	Not applicable (non-combustible solid)
Vapor Pressure	Negligible
Specific Gravity	1.5
Solubility	Slightly soluble in water, soluble in acids
Molecular Formula	CdO
Molecular Weight	128.41 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Hazardous Reactions	None under normal processing conditions.
Conditions to Avoid	Heat, sparks, open flame, and incompatible materials.
Incompatible Materials	Strong oxidizing agents, strong acids, strong bases.
Decomposition Products	May produce carbon oxides and other toxic fumes when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: See Section 2 for GHS hazard classification.

IARC	Group 1 — carcinogenic to humans (Cadmium oxide; IARC agent: Cadmium and cadmium compounds, Vol. 58, 100C).
NTP	Known to be a human carcinogen (Cadmium oxide; NTP listing: Cadmium and Cadmium Compounds).
OSHA	Regulated as a carcinogen under 29 CFR 1910.1027 (Cadmium).

12. ECOLOGICAL INFORMATION

Ecotoxicity	Algae ErC50: 0.018 mg/L (72 h, <i>Pseudokirchneriella subcapitata</i> (ErC50, OECD TG 201) — 0.018 mg/L = 18 µg/L); Daphnia EC50: 0.75 mg/L (48 h, <i>Daphnia magna</i> (immobilization, OECD TG 202))
Persistence	Cadmium non-degradable; very toxic to aquatic life with long-lasting effects (H410) — Not applicable (inorganic metal compound)
Bioaccumulation	Not Available
Mobility in Soil	Cd mobility strongly pH-dependent (increases under acidic conditions)

13. DISPOSAL CONSIDERATIONS

Dispose of contents/container in accordance with applicable federal, state, and local regulations. Do not dispose of into drains or waterways.

14. TRANSPORT INFORMATION

US DOT	UN2570, Cadmium compounds (Cadmium oxide), 6.1, PG I
IMDG	UN2570, Cadmium compounds (Cadmium oxide), 6.1, PG I
IATA/ICAO	UN2570, Cadmium compounds (Cadmium oxide), 6.1, PG I
Marine Pollutant	No

15. REGULATORY INFORMATION

TSCA Inventory	Listed.
SARA 313 (TRI)	Not listed.
California Prop 65	Not listed.
SARA 311/312	See Section 2 for hazard classifications.

Data retrieved as of — TSCA Inventory: 2026-09-02; SARA 313 (TRI): 2026-09-02; California Prop 65: 2026-09-02

16. OTHER INFORMATION

Revision Date: 09/21/2026

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