

Material Safety Data Sheet

Version 4.1

Revision Date 01/19/2012

Print Date 07/03/2012

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Cadmium oxide

Product Number : 202894

Brand : Aldrich

Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Carcinogen, Target Organ Effect, Highly toxic by inhalation, Toxic by ingestion, Teratogen, Mutagen

Target Organs

Kidney injury may occur., Damage to the lungs., Kidney, Lungs

GHS Classification

Acute toxicity, Oral (Category 3)

Acute toxicity, Inhalation (Category 2)

Germ cell mutagenicity (Category 2)

Carcinogenicity (Category 1B)

Reproductive toxicity (Category 2)

Specific target organ toxicity - repeated exposure (Category 1)

Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H301

Toxic if swallowed.

H330

Fatal if inhaled.

H341

Suspected of causing genetic defects.

H350

May cause cancer.

H361

Suspected of damaging fertility or the unborn child.

H372

Causes damage to organs through prolonged or repeated exposure.

H400

Very toxic to aquatic life.

Precautionary statement(s)

P201

Obtain special instructions before use.

P260

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P273 Avoid release to the environment.
P281 Use personal protective equipment as required.
P284 Wear respiratory protection.
P310 Immediately call a POISON CENTER or doctor/ physician.

HMIS Classification

Health hazard: 3
Chronic Health Hazard: *
Flammability: 0
Physical hazards: 0

NFPA Rating

Health hazard: 4
Fire: 0
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be fatal if inhaled. May cause respiratory tract irritation.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.
Ingestion Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : CdO
Molecular Weight : 128.41 g/mol

Component		Concentration
Cadmium oxide non-pyrophoric		
CAS-No.	1306-19-0	-
EC-No.	215-146-2	
Index-No.	048-002-00-0	

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Cadmium/cadmium oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Cadmium oxide non-pyrophoric	1306-19-0	TWA	0.0020 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Suspected human carcinogen			
		TWA	0.01 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Kidney damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Suspected human carcinogen varies			
		TWA	0.002 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Kidney damage Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Suspected human carcinogen varies			
	Potential Occupational Carcinogen See Appendix A			

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the

concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	powder
Colour	no data available

Safety data

pH	no data available
Melting point/freezing point	no data available
Boiling point	no data available
Flash point	not applicable
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	8.15 g/cm ³ at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Materials to avoid

Oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Cadmium/cadmium oxides

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - rat - 72 mg/kg

Inhalation LC50

LC50 Inhalation - mouse - 2 h - 250 mg/m3

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

In vitro tests showed mutagenic effects

Carcinogenicity

Carcinogen

Possible human carcinogen

IARC: 1 - Group 1: Carcinogenic to humans (Cadmium oxide non-pyrophoric)

NTP: Known to be human carcinogen (Cadmium oxide non-pyrophoric)

Known to be human carcinogenThe reference note has been added by TD based on the background information of the NTP. (Cadmium oxide non-pyrophoric)

OSHA: 1910.1027 (Cadmium oxide non-pyrophoric)

Reproductive toxicity

no data available

Teratogenicity

Suspected human reproductive toxicant

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

no data available

Potential health effects**Inhalation**

May be fatal if inhaled. May cause respiratory tract irritation.

Ingestion

Toxic if swallowed.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

May cause eye irritation.

Signs and Symptoms of Exposure

Kidney injury may occur., Damage to the lungs.

Synergistic effects

no data available

Additional Information

RTECS: EV1925000

12. ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 7.029 mg/l - 96.0 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: 2570 Class: 6.1 Packing group: III
Proper shipping name: Cadmium compounds (Cadmium oxide non-pyrophoric)
Reportable Quantity (RQ):
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 2570 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: CADMIUM COMPOUND (Cadmium oxide non-pyrophoric)
Marine pollutant: No

IATA

UN number: 2570 Class: 6.1 Packing group: III
Proper shipping name: Cadmium compound (Cadmium oxide non-pyrophoric)

15. REGULATORY INFORMATION**OSHA Hazards**

Carcinogen, Target Organ Effect, Highly toxic by inhalation, Toxic by ingestion, Teratogen, Mutagen

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

Cadmium oxide non-pyrophoric

CAS-No.
1306-19-0

Revision Date
1993-04-24

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Cadmium oxide non-pyrophoric	1306-19-0	1993-04-24

SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Cadmium oxide non-pyrophoric	1306-19-0	1993-04-24

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Cadmium oxide non-pyrophoric	1306-19-0	1993-04-24

New Jersey Right To Know Components

	CAS-No.	Revision Date
Cadmium oxide non-pyrophoric	1306-19-0	1993-04-24

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer.	1306-19-0	1987-10-01
Cadmium oxide non-pyrophoric		

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.	1306-19-0	1987-10-01
Cadmium oxide non-pyrophoric		

16. OTHER INFORMATION**Further information**

Copyright 2012 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.
