

SAFETY DATA SHEET

Cadmium

1 Product and Company Identification

Product: Cadmium Metal

Trade Name: Cadmium Coil - A000327, A000897, E060055, E060056, E060085, E100024, 165-0301-01, 135-0301-02

Company: EZkem
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Emergency: Infotrac 800-535-5053 (US) or 352-323-3500 (24 hour)

Recommended Uses: Scientific Research

2 HAZARDS IDENTIFICATION

GHS Classification (29 CFR 1910.1200): Acute toxicity - oral, category 3, Acute toxicity - inhalation, category 1, Carcinogenicity, category 1B, Specific target organ toxicity - repeated exposure, category 2.

GHS Label Elements:



Signal Word: Danger

Hazard Statements: H301 Toxic if swallowed, H330 Fatal if inhaled, H350 May cause cancer, H373 May cause damage to kidneys through prolonged or repeated exposure.

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 or fume, P264 Wash skin thoroughly after handling, P270 Do not eat, drink or smoke when using this product, P271 Use only outdoors or in a well-ventilated area, P281 Use personal protective equipment as required, P284 Wear respiratory protection, P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician, P330 Rinse mouth, P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing, P310 Immediately call a POISON CENTER or doctor/physician, P308+P313 IF exposed or concerned: Get medical advice/attention, P314 Get medical advice/attention if you feel unwell, P405 Store locked up, P501 Dispose of contents/container in accordance with local, state or federal regulations.

NOTE: In the solid form in which it is provided, and under typical handling and use, this material does not pose a health hazard. Subsequent operations performed by the end user, such as exposure to high temperatures, melting or grinding, may produce highly toxic cadmium oxide dust or fume. Shieldwerx does not warrant this material for any specific application and all precautions must be taken by the end user to prevent and protect against exposure to inhalable particulate. See section 8 for information on exposure controls and personal protection.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: Cadmium
CAS#: 7440-43-9
%: 100
EC#: 231-152-8

4 FIRST AID MEASURES

General Measures: Under normal handling and use, exposure to solid forms of this material present few health hazards, however subsequent operations such as grinding, melting or welding may produce hazardous dust or fumes. Emergency responders should take care to avoid secondary exposure to cadmium particulate. Wear appropriate protective equipment.

INHALATION: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek immediate medical attention. Treat pulmonary edema as a priority, even if no symptoms (i.e. wheezing, coughing, shortness of breath, etc.) are apparent. Symptoms of pulmonary edema can be delayed up to 48 hours after exposure. Quickly transport victim to an emergency care facility.

INGESTION: Rinse mouth with water. Do not induce vomiting. Seek immediate medical attention. Never induce vomiting or give anything by mouth to an unconscious person. Ingested cadmium may lead to spontaneous vomiting. If vomiting occurs naturally, have victim rinse mouth with water again.

SKIN: Remove contaminated clothing, wash affected area with soap and water. Seek medical attention. Wash contaminated clothing before reusing.

EYES: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention.

Most Important Symptoms/Effects, Acute and Delayed: May cause respiratory irritation, coughing, headache. See section 11 for more information.

Indication of Immediate Medical Attention and Special Treatment: No other information available.

5 FIREFIGHTING MEASURES

Extinguishing Media: Use Class D dry powder extinguishing agent.

Unsuitable Extinguishing Media: Do not use water or foam.

Specific Hazards Arising from the Material: This product does not present fire or explosion hazards as shipped. Fine dust from processing may ignite if allowed to accumulate and subjected to an ignition source. When heated, cadmium emits highly toxic fumes of cadmium oxide.

Special Protective Equipment and Precautions for Firefighters: Full face, self-contained breathing apparatus and full protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures:

Wear appropriate respiratory and protective equipment specified in section 8. Isolate spill area and provide ventilation. Avoid breathing dust or fume. Avoid contact with skin and eyes. Eliminate all sources of ignition.

Methods and Materials for Containment and Cleaning Up: Avoid creating dusts. For larger pieces - pick up mechanically. For chips or dust - vacuum spill using a system equipped with a HEPA filtration system and place in properly labeled closed containers. Special precautions must be taken when changing filters on HEPA vacuum cleaners used to clean up hazardous materials. Caution should be taken to minimize airborne generation of particulate and avoid contamination of air and water.

Environmental Precautions: Do not allow to enter drains or to be released to the environment.

7 HANDLING AND STORAGE

Precautions for Safe Handling: Handle in a well-ventilated area. Avoid exposure to high temperature. Avoid creating dust. Avoid breathing dust or fumes. Provide local exhaust ventilation if dusts are created. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a sealed container. Store in a cool, dry area. . Do not store together with oxidizers, acids or halogens. See section 10 for more information on incompatible materials.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: Cadmium
OSHA/PEL: 0.005 mg/m³
ACGIH/TLV: 0.01 mg/m³

Appropriate Engineering Controls: Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air. Clothing worn in areas of exposure to cadmium dust or fume should be restricted to the workplace and laundered regularly.

Individual Protection Measures, Such as Personal Protective Equipment:

Respiratory Protection: When potential exposures are above the occupational limits, approved respirators must be used.

Eye Protection: Safety glasses

Skin Protection: Wear impermeable gloves, protective work clothing as necessary.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Solid in various forms

Color: Silvery metallic

Odor: Odorless

Odor Threshold: Not determined

pH: N/A

Melting Point:	320.9 °C
Boiling Point:	765 °C
Flash Point:	N/A
Evaporation Rate:	N/A
Flammability:	No data
Upper Flammable Limit:	No data
Lower Flammable Limit:	No data
Vapor Pressure:	1 mm Hg @ 394 °C
Vapor Density:	N/A
Relative Density (Specific Gravity):	8.642 g/cc
Solubility in H₂O:	Insoluble
Partition Coefficient (n-octanol/water):	Not determined
Autoignition Temperature:	No data
Decomposition Temperature:	No data
Viscosity:	N/A

10 STABILITY AND REACTIVITY

Reactivity: No data

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: High temperatures will generate toxic cadmium oxide fumes.

Conditions to Avoid: Avoid creating or accumulating fines or dusts. Avoid high temperatures.

Incompatible Materials: Peroxides, chlorates, nitrates, halogens, interhalogens, strong acids, strong bases, sulphur, potassium, zinc, selenium and tellurium.

Hazardous Decomposition Products: Cadmium oxide fume.

11 TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin, eyes.

Symptoms of Exposure: Inhalation of fumes may cause upper respiratory tract irritation and systemic poisoning with early symptoms including headache, coughing, and a metallic taste.

Acute and Chronic Effects: After a delay of several hours (up to 10) after inhalation of dust or fumes, a person may develop constriction of the chest, persistent cough, and progressive shortness of breath. There may be headache, chills, diarrhea, muscle aches, nausea, vomiting, irritability, and restlessness. Prolonged exposure to cadmium dust and/or fume may cause loss of sense of smell, occasional ulcerations of the nasal passages, rhinolaryngitis, cough, shortness of breath, mild anemia, sleeplessness, irritability, loss of appetite, and cadmium-yellow fringe on teeth. The primary target organ for chronic cadmium effects is the kidney with increased excretion of a specific low molecular weight protein (beta-2-microglobulin). Exposures to high levels of cadmium dust or fume may be immediately dangerous to life or health and can cause delayed pneumonitis with fever and chest pain, and pulmonary edema resulting in death.

Acute Toxicity: LD50 oral - rat - 225mg/kg, LC50 inhalation - rat - 25mg/kg/30 min

Carcinogenicity: **NTP:** K - Known to be carcinogenic **IARC:** 1 - Carcinogenic to humans

To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

12 ECOLOGICAL INFORMATION

Ecotoxicity: No data

Persistence and Degradability: No data

Bioaccumulative Potential: No data

Mobility in Soil: No data

Other Adverse Effects: May be toxic to aquatic organisms. Do not allow material to be released to the environment. No further relevant information available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Product: Dispose of in accordance with Federal, State and Local regulations.

Packaging: Dispose of in accordance with Federal, State and Local regulations.

14 TRANSPORT INFORMATION

Shipping Regulations: Not regulated

UN Number: N/A

UN Proper Shipping Name: N/A

Transport Hazard Class: N/A

Packing Group: N/A

Marine Pollutant: No

15 REGULATORY INFORMATION

TSCA Listed: All components are listed.

Regulation (EC) No 1272/2008 (CLP): Acute toxicity - oral, category 3, Acute toxicity - inhalation, category 1, Carcinogenicity, category 1B, Specific target organ toxicity - repeated exposure, category 2, Hazardous to the aquatic environment - acute hazard, category 1, Hazardous to the aquatic environment - chronic hazard, category 1.

Canada WHMIS Classification (CPR, SOR/88-66): Acute toxicity, Carcinogenicity, Specific target organ toxicity - repeated exposure.

HMIS Ratings: Health: 1 Flammability: 0 Physical: 0

NFPA Ratings: Health: 3 Flammability: 0 Instability: 0

Chemical Safety Assessment: A chemical safety assessment has not been carried out.

16 OTHER INFORMATION

The information contained in this document is based on the state of our knowledge at the time of publication and is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Shieldwerx makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information. Shieldwerx shall not be held liable for any damages resulting from handling or from contact with the above product. Users should satisfy themselves that they have all current data relevant to their particular use.

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