

### SECTION 1: PRODUCT DESCRIPTION

**PRODUCT IDENTIFIER**

Product form: Solid  
 Product Name: Cadmium Metal (bars, balls, pieces)  
 Formula: Cd  
 Synonyms: N/A

**SUPPLIER**

**NATHAN TROTTER & COMPANY**  
**241 W. STEWART HUSTON DRIVE**  
**COATESVILLE, PA 19320**  
**PH. 610-524-1440**  
**FX. 610-524-2496**

**INTENDED USE OF PRODUCT**

Use: Industrial; professional use only

**EMERGENCY TELEPHONE NUMBER**

CHEMTREC 24 HR Emergency number: 1-800-424-9300  
 INTERNATIONAL CHEMTREC call: 1-703-527-3887

### SECTION 2: HAZARD IDENTIFICATION

GHS CLASSIFICATION: Acute toxicity, category 3, Carcinogenicity, category 2, Specific target organ toxicity, repeated or prolonged exposure, category 2

**HAZARD STATEMENTS:**

- H301: Toxic if swallowed.
- H331: Toxic if inhaled.
- H350: May cause cancer.
- H373: May cause damage to organs through prolonged or repeated exposure.



Signal Word:

**DANGER**

**PRECAUTIONARY STATEMENTS:**

- P264: Wash hands thoroughly after handling
- P261: Avoid breathing in dust or fumes.
- P270: Do not eat, drink, or smoke when using this product
- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- P280: Wear protective gloves/clothing and face/eye protection.
- P301+P310: IF SWALLOWED: Immediately call a POISON CONTROL CENTER
- P304: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P308+P313: IF exposed or concerned: Get medical advice/attention.
- P405: Store locked up
- P501: Dispose of contents in accordance with local and federal regulations

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**SUBSTANCE**

Name	Product Identifier	%	Classification (GHS-US)
Cadmium, Metal	7440-43-9	100	See section 2

**MIXTURE**

Precautionary Statements: Not Applicable

## SECTION 4: FIRST AID MEASURES

**General First-aid Measures:** Under normal handling and use, exposure to solid forms of this material present few health hazards. Subsequent operations such as grinding, melting or welding may produce hazardous dust or fumes which can be inhaled or come in contact with the skin or eyes. 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 irritation. See section 11 for more information.

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

## SECTION 5: FIRE FIGHTING PROCEDURES

**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 when necessary.

## SECTION 6: SPILL OR LEAK MEASURES/PROCEDURES

**Personal Precautions, Protective Equipment, and Emergency Procedures:** Wear appropriate respiratory and protective equipment specified in section 8. Avoid creating dusts. Avoid breathing dust or fume. Isolate spill area and provide ventilation.

**Methods and Materials for Containment and Cleaning Up:** 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.

## SECTION 7: HANDLING AND STORAGE

**Precautions for Safe Handling:** Handle in a well-ventilated area. Avoid creating dust. Avoid exposure to high temperature. Avoid breathing dust or fumes. 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.

## SECTION 8: PROTECTION INFORMATION

CHEMICAL NAME: CADMIUM, METAL

<u>TLV</u>	<u>ACGIH</u>	<u>STEL</u>	<u>TWA</u>	<u>OSHA PEL</u>	<u>STEL</u>
0.01 MG/M3		N/A	0.005 MG/M3		N/A

**CONTROL PARAMETERS/ ENGINEERING MEASURES:** Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Lab coat, apron, eye wash, safety shower.

**RESPIRATORY PROTECTION:** When potential exposures are above the occupational limits, approved respirators must be used. Respiratory protection may be required in addition to ventilation depending upon conditions of use.

**EYE PROTECTION:** Wear chemical splash goggles when handling this product. Have an eye wash station available.

**SKIN PROTECTION:** Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

## SECTION 9: PHYSICAL DATA

**FORMULA:** Cd

**FREEZING POINT:** No data available

**MOLECULAR WEIGHT:** 112.411

**FLAMMABILITY:** No data Available

**APPEARANCE:** Silvery metallic

**FLASH POINT:** No data available

**ODOR:** No data available

**AUTO IGNITION TEMPERATURE:** No data available

**PHYSICAL STATE:** Solid

**DECOMPOSITION TEMPERATURE:** No data available

**pH:** No data available

**VAPOR PRESSURE :** 1mm Hg at 741.2°F (394°C)

**MELTING POINT:** 609.62°F (320.9°C)

**SPECIFIC GRAVITY:** 8.642 g/cc

**BOILING POINT:** 1400°F (765°C)

Insoluble in water

## SECTION 10: REACTIVITY DATA

**REACTIVITY:** No data.

**CHEMICAL STABILITY:** Stable under recommended handling and storage conditions. (see section 7)

**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 fumes.

## SECTION 11: TOXICITY DATA

**ROUTES OF ENTRY:** Inhalation, ingestion, skin, eyes. Product as shipped does not present an inhalation hazard; however subsequent operations may create dusts or fumes which could be inhaled.

**SYMPTOMS (ACUTE):** Inhalation of fumes may cause upper respiratory tract irritation and systemic poisoning with early symptoms including headache, coughing, and a metallic taste.

**DELAYED 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.

### ACUTE TOXICITY:

<u>CHEMICAL NAME:</u>	<u>CAS NUMBER</u>	<u>ORAL LD50</u>	<u>DERMAL LD50</u>	<u>INHALATION LC50</u>
Cadmium, Metal	7440-43-9	Rat - 225mg/kg	N/A	Rat - 25mg/kg/30 mins

### CARCINOGENICITY:

<u>CHEMICAL NAME:</u>	<u>CAS NUMBER</u>	<u>IARC</u>	<u>NTP</u>	<u>OSHA</u>
Cadmium, Metal	7440-43-9	1	K -Known to be carcinogenic	

**CHRONIC EFFECTS:** 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.

## SECTION 12: ECOLOGICAL DATA

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

**MOBILITY:** N/A

**PERSISTANCE:** N/A

**BIOACCUMULATION:** N/A

**DEGRADABILITY:** N/A

**OTHER ADVERSE EFFECTS:** N/A

## SECTION 13: DISPOSAL INFORMATION

**DISPOSAL METHODS:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance

**WASTE DISPOSAL CODE(S):** Not determined

## SECTION 14: TRANSPORT INFORMATION

**GROUND- DOT PROPER SHIPPING NAME:**

Not Available

**AIR- IATA PROPER SHIPPING NAME:**

Not Available

## SECTION 15: REGULATORY INFORMATION

**TSCA STATUS:** All components in this product are on the TSCA Inventory.

CHEMICAL NAME:	CAS NUMBER	§ 313 NAME	§ 313 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Cadmium, Metal	7440-43-9	Lead	No	10lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of solid metal released is >100 µm); 4.54kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal is >100µm)	No	No

**CALIFORNIA PROP 65:** **WARNING:** This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

## SECTION 16: ADDITIONAL INFORMATION

REVISED: MAY 2015

Most of the available information on the health effects of cadmium has been gained from industrial exposure to, and research performed with, cadmium compounds. Comparatively little research has been conducted to determine the difference in health effects of cadmium metal as opposed to cadmium compounds. In animal studies, it appears that in acute exposures, the relatively more soluble cadmium chloride, cadmium oxide fume, and cadmium carbonate compounds are more toxic than the relatively less soluble cadmium sulfide compounds. Toxicity does not strictly correlate with solubility however, and the solubility of cadmium oxide in biological fluids may be greater than its solubility in water. Cadmium metal dust is believed to be toxic and all precautions should be taken to avoid exposure. Inhalation and ingestion are the most hazardous routes of exposure. Heating cadmium to high temperature will produce cadmium oxide fume, which is known to be extremely toxic.

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GLOSSARY:

**NTP:** National Toxicology Program

**OSHA:** Occupational Safety and Health Administration

**PEL:** Permissible Exposure Limit

**PPM:** Parts per million

**RCRA:** Resource Conservation and Recovery Act

**SARA:** Superfund Amendments and Reauthorization Act

**TLV:** Threshold Limit Value

**TSCA:** Toxic Substances Control Act

**ACGIH:** American Conference of Governmental Industrial Hygienists

**CAS:** Chemical Abstract Service Number

**CERCLA:** Comprehensive Environmental Response, Compensation, and Liability Act

**DOT:** U.S. Department of Transportation

**IARC:** International Agency for Research on Cancer

**N/A:** Not Available