

MATERIAL SAFETY DATA SHEET

This form may be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200.
 IDENTITY (As Used on Label and List): **Cadmium arsenide, pieces**
 Product Code: **C-MSDS0008** Reference #: **12006-15-4**

SECTION I - PRODUCT IDENTIFICATION

Cadmium arsenide, pieces

MANUFACTURER NAME AND ADDRESS:

ProChem, Inc.
 826 Roosevelt Rd.
 Rockford IL 61109

TELEPHONE NUMBERS:

CHEMTREC	(800)424-9300
ProChem, Inc.	(800) 795-8788
Local Poison/Emrgncy	() - 911

DATES:

Date Created:
 08/16/1988
 Revision: 05/05/1993
 Printed: 01/28/2004

SYNONYMS

Cadmium arsenide, cadmium diarsenide

CHEMICAL FAMILY: Metal Arsenide

DOT HAZARD LABEL: No data.

FORMULA: Cd3As2

MOLECULAR WEIGHT: 270.08

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Cadmium arsenide, pieces

HAZARDOUS COMPONENTS (CHEMICAL NAME)

<u>NAME:</u>	Cadmium arsenide		
<u>CAS #:</u>	12006-15-4	<u>PERCENTAGE:</u>	100.0 %
<u>OSHA PEL:</u>	5 ug(Cd)/m3	<u>ACGIH TLV:</u>	.05mg(Cd)/m3
<u>OTHER LIMITS:</u>	CL 0.6 mg/m3		
<u>SEC.302 (EHS):</u>	No	<u>SEC.304 RO:</u>	Yes 1 LB**
<u>SEC.313:</u>	Yes		

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Cadmium arsenide, pieces

<u>PHYSICAL STATES:</u>	<input type="checkbox"/> Gas , <input type="checkbox"/> Liquid , <input checked="" type="checkbox"/> Solid
<u>BOILING POINT:</u>	N.A.
<u>MELTING POINT:</u>	N.A.
<u>SPECIFIC GRAVITY (WATER = 1):</u>	3.031gm/cc
<u>DENSITY:</u>	No data.
<u>VAPOR PRESSURE (VS. AIR OR MM HG):</u>	NA
<u>VAPOR DENSITY (VS. AIR = 1):</u>	NA

EVAPORATION RATE (VS BUTYL ACETATE=1): NA
SOLUBILITY IN WATER: decomposes
OTHER SOLUBILITY NOTES: soluble in HNO₃
PERCENT VOLATILE: N.A.
PH: No data.
APPEARANCE AND ODOR

Dark Gray pieces, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA
Cadmium arsenide, pieces

FLASH PT: N.A. **METHOD USED:** NON-FLAMMABLE
EXPLOSIVE LIMITS: LEL: NA UEL: NA
EXTINGUISHING MEDIA

USE: Not applicable. Use suitable extinguishing media for surrounding materials and type of fire.

SPECIAL FIRE FIGHTING PROCEDURES

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Dangerous when heated to decomposition or when metallic arsenic contacts acids or acid fumes, or when water solutions of arsenicals are in contact with active metals such as iron, aluminum and zinc. Cadmium arsenide may emit toxic fumes of arsenic and cadmium. Dust-air mixtures may be explosive. Finely divided metal may be pyrophoric in air.

SECTION V - REACTIVITY DATA
Cadmium arsenide, pieces

STABILITY: Unstable [] Stable [X]
CONDITIONS TO AVOID - INSTABILITY

None

INCOMPATIBILITY - MATERIALS TO AVOID

Acids and acid fumes

HAZARDOUS DECOMPOSITION OR BYPRODUCTS

Airborne cadmium and arsenic fumes, cadmium oxide and hydrogen gas.

HAZARDOUS POLYMERIZATION: Will occur [] Will not occur [X]
CONDITIONS TO AVOID - HAZARDOUS POLYMERIZATION

None

SECTION VI - HEALTH HAZARD DATA

Cadmium arsenide, pieces

ROUTE(S) OF ENTRY: Inhalation? Yes , Skin? Yes , Eyes? Yes , Ingestion? Yes , Other: N

HEALTH HAZARDS (ACUTE AND CHRONIC)

To the best of our knowledge the chemical, physical and toxicological properties of cadmium arsenide have not been thoroughly investigated and recorded.

Cadmium compounds are confirmed carcinogens producing lung tumors. Poison by ingestion. Inhalation of fumes or dusts affects the respiratory tract and the kidneys. Brief exposure to high concentrations may result in pulmonary edema and death. Fatal concentrations may be breathed without sufficient discomfort to warn a worker to leave the exposure. Cadmium oxide fumes can cause metal fume fever. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Inorganic arsenic compounds are confirmed human carcinogens producing tumors of the mouth, esophagus, larynx, bladder and paranasal sinus. A recognized carcinogen of the skin, lungs and liver. (Sax, Dangerous Properties of Industrial Material, eighth edition)

INHALATION:

Acute: May cause irritation of the upper respiratory system, vertigo, constriction of the throat, metallic taste in the mouth and cough, dyspnea, cyanosis, chest pain, flu-like symptoms and pulmonary edema. More severe exposure may cause pulmonary fibrosis/hypertrophy of bronchial vessels and renal necrosis and/or liver damage.

Chronic: May cause irreversible lung injury, pulmonary fibrosis, damage to the olfactory nerve. All routes of entry may cause kidney damage, osteomalacia, osteoporosis, and spontaneous fractures, hemolytic and iron-deficiency anemia, weight loss, and irritability, renal tubular necrosis, cardiovascular effects, liver damage and prostatic and respiratory cancers. May cause chronic arsenic poisoning.

INGESTION:

Acute: May cause irritation of mouth and throat, increased salivation, burning sensation and cramps in stomach, nausea, headache, vomiting, weakness, dizziness, diarrhea, shock, convulsions and acute arsenic poisoning.

Chronic: May cause irreversible renal tubular dysfunction, functional changes in the liver, pancreas, adrenal glands and chronic arsenic poisoning.

SKIN:

Acute: Direct contact may result in irritation.

Chronic: Repeated or prolonged exposure may result in dermatitis, change in pigmentation and cancerous changes.

EYE:

Acute: Direct contact may cause irritation, redness, pain and smarting.

Chronic: Repeated or prolonged exposure may cause conjunctivitis.

TARGET ORGANS: May affect the respiratory system, kidneys, liver, skin, prostate and blood.

CARCINOGENICITY: NTP? Yes , IARC Monographs? Yes , OSHA Regulated? Yes

CARCINOGENICITY/OTHER INFORMATION

No data available.

RECOMMENDED EXPOSURE LIMITS: See "Section II" **LD 50/LC 50:** No toxicity data recorded.

SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: Throat dryness, cough, headache, vomiting, chest pain, extreme restlessness and irritability, pneumonitis, possibly bronchiopneumonia. Chronic arsenic poisoning may cause: loss of appetite, cramps, nausea, constipation or diarrhea, damage to the liver and blood, kidney and nervous system disorders.

INGESTION: Increased salivation, disturbances in the choking, vomiting, abdominal pain, anemia, renal dysfunction, diarrhea, tenesmus. Acute arsenic poisoning may cause: irritation of the stomach and intestines with nausea, vomiting, diarrhea, shock, weak, rapid pulse, cold sweats, coma and death. Chronic arsenic poisoning may cause: loss of appetite, cramps, nausea, constipation or diarrhea, damage to the liver and blood, kidney and nervous system disorders.

SKIN: Redness, itching, burning and a change in pigmentation.

EYE: Redness, itching, burning and watering.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

Kidney or respiratory disfunction, skin, blood or bone disorders.

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove victim to fresh air; if conscious, encourage victim to blow nose, cough up, then spit out mucous and saliva; keep warm and quite; give oxygen if breathing is difficult and seek medical attention immediately.

INGESTION: Seek medical attention immediately.

SKIN: Remove contaminated clothing from affected area; brush material off skin. Wash affected area with mild soap and water. Seek medical attention immediately.

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

NOTE TO PHYSICIAN

No data available.

**SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE
Cadmium arsenide, pieces**

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Wear appropriate respiratory and protective equipment specified in section VIII-control measures. Isolate spill area and provide ventilation. Scoop and vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

WASTE DISPOSAL METHOD

Dispose of in accordance with applicable federal, state, and local regulations.

HAZARD LABEL INFORMATION:

Store in cool, dry area Store away from incompatible material
Store in tightly sealed container Wash thoroughly after handling

PRECAUTIONS TO BE TAKEN IN HANDLING

OSHA 29 CFR 1910.1027 (m)(3)(ii) minimum requirement for cadmium warning labels: "Danger; Contains cadmium; Cancer hazard; Avoid creating dust; Can cause lung and kidney disease."

OSHA 29 CFR 1910.1018 (p)(3) minimum requirement for inorganic arsenic warning labels: "Danger; Contains inorganic arsenic; Cancer hazard; Harmful if inhaled or swallowed; Use only with adequate ventilation or respiratory protection."

PRECAUTIONS TO BE TAKEN IN STORING

No data available.

OTHER PRECAUTIONS

Do not breath or ingest cadmium dust.

**SECTION VIII- CONTROL MEASURES
Cadmium arsenide, pieces**

PROTECTIVE EQUIPMENT SUMMARY - HAZARD LABEL INFORMATION:

NIOSH approved respirator Rubber gloves Safety glasses

Clothes to prevent skin contact

RESPIRATORY EQUIPMENT (SPECIFY TYPE)

Select according to OSHA 29 CFR 1910.1027(g)(2)(i) Table 2

VENTILATION:

LOCAL EXHAUST: To maintain concentration at or below PEL **SPECIAL:** Enclose process if possible

MECHANICAL (GENERAL): Not recommended **OTHER:** Engineering and work practices

EYE PROTECTION

Vented goggles and/or face shield

PROTECTIVE GLOVES

Rubber, butyl, PVC

OTHER PROTECTIVE CLOTHING

Protective gear suitable to prevent contamination.

WORK/HYGIENIC/MAINTENANCE PRACTICES

Implement engineering and work practice controls to reduce and maintain concentration of exposure to cadmium at or below PEL. [OSHA 29 CFR 1910.1027 (f)(1)(i)]. Handle in a controlled, inert atmosphere. Minimize exposure of cadmium by local exhaust and enclosing process if/when possible. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Shower and change clothes at the end of workshift (DO NOT wear contaminated clothing home). Do not blow dust off clothing or skin with compressed air.

SECTION IX - ADDITIONAL COMMENTS
Cadmium arsenide, pieces

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change, and the conditions of handling and use or misuse are beyond our control, **PROCHEM MAKES NO WARRANTY, EITHER EXPRESSED NOR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN, AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON.** Users should satisfy themselves that they have all current data relevant to their particular use.

Abbreviations used: NA=Not Applicable NE: Not Established
