

# SAFETY DATA SHEET

Date Printed: 04/26/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Cadmium Iodide

**Product Code:** CD-I-05

**CAS Number:** 7790-80-9

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H331 Toxic if inhaled.

GHS08 Health hazard

Carc. 2

H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to the kidneys, the liver, the reproductive system and the blood through prolonged or repeated exposure. Route of exposure: Oral.

Hazards not otherwise classified

No data available

GHS label elements

GHS label elements, including precautionary statements

Hazard pictograms



GHS06 GHS08

Signal word

Danger

#### Hazard statements

H301+H331 Toxic if swallowed or if inhaled.

H351

Suspected of causing cancer.

H373

May cause damage to the kidneys, the liver, the reproductive system and the blood through prolonged or repeated exposure. Route of exposure: Oral.

#### Precautionary statements

P260

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

P261

Avoid breathing dust/fume/gas/mist/vapors/spray.

P281

Use personal protective equipment as required.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P405

Store locked up.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### WHMIS classification

D1A - Very toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects

#### Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

Health (acute effects) = 2

Flammability = 0

Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

---

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substances

CAS No. / Substance Name:

7790-80-9 Cadmium iodide

Identification number(s):

EC number:

232-223-6

Index number:

048-007-00-8

---

## SECTION 4. FIRST AID MEASURES

#### Description of first aid measures

#### General information

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing has been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.

If inhaled:

Supply patient with fresh air. If not breathing, provide artificial respiration. Keep patient warm.  
Seek immediate medical advice.

In case of skin contact:

Immediately wash with soap and water; rinse thoroughly.

Seek immediate medical advice.

In case of eye contact:

Rinse opened eye for several minutes under running water. Consult a physician.

If swallowed:

Do not induce vomiting; immediately call for medical help.

Information for doctor

Most important symptoms and effects, both acute and delayed

No data available

Indication of any immediate medical attention and special treatment needed

No data available

---

## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents

Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Hydrogen iodide (HI)

Toxic metal oxide fume

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

---

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Environmental precautions:

Do not allow material to be released to the environment without official permits.

Methods and materials for containment and cleanup:

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards:

No special measures required.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

---

## SECTION 7. HANDLING AND STORAGE

### Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

Prevent formation of dust.

Information about protection against explosions and fires:

The product is not flammable

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

Store away from oxidizing agents.

Store away from water/moisture.

Further information about storage conditions:

This product is hygroscopic.

Store under dry inert gas.

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

Protect from humidity and water.

Specific end use(s)

No data available

---

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

7790-80-9 Cadmium iodide (100.0%)

PEL (USA)

Long-term value: 0.005 mg/m<sup>3</sup>

as Cd; see 29 CFR 1910.1027

REL (USA)

See Pocket Guide App. A

TLV (USA)

Long-term value: 0.01 0.002\* mg/m<sup>3</sup>

as Cd; \*respirable fraction; BEI

EL (Canada) Long-term value: 0.01 mg/m<sup>3</sup>

as Cd; ACIGH A1, IARC 1

Ingredients with biological limit values:

7790-80-9 Cadmium iodide (100.0%)

BEI (USA) 5 µg/g creatinine

Medium: urine

Time: not critical

Parameter: Cadmium (background)

5 µg/L

Medium: blood

Time: not critical  
Parameter: Cadmium (background)  
Additional information:  
No data  
Exposure controls  
Personal protective equipment  
Follow typical protective and hygienic practices for handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Remove all soiled and contaminated clothing immediately.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Maintain an ergonomically appropriate working environment.  
Breathing equipment:  
Use self-contained respiratory protective device in emergency situations.  
Protection of hands:  
Impervious gloves  
Inspect gloves prior to use.  
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.  
Penetration time of glove material (in minutes)  
No data available  
Eye protection:  
Safety glasses  
Body protection:  
Protective work clothing.

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties  
Appearance:  
Form: Powder  
Color: Light green  
Odor: Odorless  
Odor threshold: No data available.  
pH: N/A  
Melting point/Melting range: 387-389 °C (729-732 °F)  
Boiling point/Boiling range: 787 °C (1449 °F)  
Sublimation temperature / start: No data available  
Flammability (solid, gas)  
No data available.  
Ignition temperature: No data available  
Decomposition temperature: No data available  
Autoignition: No data available.  
Danger of explosion: Product does not present an explosion hazard.  
Explosion limits:  
Lower: No data available  
Upper: No data available  
Vapor pressure at 402 °C (756 °F): 0.13 hPa  
Density at 20 °C (68 °F): 5.30-5.67 g/cm<sup>3</sup> (44.229-47.316 lbs/gal)  
Relative density  
No data available.  
Vapor density  
N/A

Evaporation rate  
N/A  
Solubility in Water (H<sub>2</sub>O): Soluble  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A  
Kinematic: N/A  
Other information  
No data available

---

## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
No data available  
Chemical stability  
Stable under recommended storage conditions.  
Thermal decomposition / conditions to be avoided:  
Decomposition will not occur if used and stored according to specifications.  
Possibility of hazardous reactions  
No dangerous reactions known  
Conditions to avoid  
No data available  
Incompatible materials:  
Oxidizing agents  
Water/moisture  
Hazardous decomposition products:  
Hydrogen iodide (HI)  
Toxic metal oxide fume

---

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity:  
Toxic if inhaled.  
Toxic if swallowed.  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.  
LD/LC50 values that are relevant for classification:  
Oral LD50 166 mg/kg (mouse)  
222 mg/kg (rat)  
Skin irritation or corrosion:  
Irritant to skin and mucous membranes.  
Eye irritation or corrosion:  
Irritating effect.  
Sensitization:  
No sensitizing effects known.  
Germ cell mutagenicity:  
Suspected of causing genetic defects.  
Carcinogenicity:  
IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.  
EPA-B1: Probable human carcinogen, limited evidence of carcinogenicity from epidemiologic studies.

Carcinogen as defined by OSHA.

ACGIH A2: Suspected human carcinogen: Agent is carcinogenic in experimental animals at dose levels, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) considered relevant to worker exposure. Available epidemiologic studies are conflicting or insufficient to confirm an increased risk of cancer in exposed humans.

NTP-K: Known to be carcinogenic: sufficient evidence from human studies.

Reproductive toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - repeated exposure:

May cause damage to the kidneys, the liver, the reproductive system and the blood through prolonged or repeated exposure. Route of exposure: Oral.

Specific target organ system toxicity - single exposure:

No effects known.

Aspiration hazard:

No effects known.

Subacute to chronic toxicity:

No effects known.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

---

## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity:

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Ecotoxicological effects:

Remark:

Very toxic for aquatic organisms

Additional ecological information:

Do not allow material to be released to the environment without official permits.

Do not allow product to reach groundwater, water courses, or sewage systems, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

May cause long lasting harmful effects to aquatic life.

Avoid transfer into the environment.

Very toxic for aquatic organisms

Results of PBT and vPvB assessment

PBT:

N/A

vPvB:

N/A

Other adverse effects

No data available

---

## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Recommendation

Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

Recommended cleansing agent:

Water, if necessary with cleansing agents.

---

## SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA

UN2570

UN proper shipping name

DOT

Cadmium compounds (Cadmium iodide)

IMDG

CADMIUM COMPOUND (Cadmium iodide), MARINE POLLUTANT

IATA

CADMIUM COMPOUND (Cadmium iodide)

Transport hazard class(es)

DOT

Class

6.1 Toxic substances.

Label

6.1

Class

6.1 (T5) Toxic substances

Label

6.1

IMDG

Class

6.1 Toxic substances.

Label

6.1

IATA

Class

6.1 Toxic substances.

Label

6.1

Packing group

DOT, IMDG, IATA

III

Environmental hazards:

Environmentally hazardous substance, solid; Marine Pollutant

Marine pollutant (IMDG):

Symbol (fish and tree)

Special precautions for user



Warning: Toxic substances  
EMS Number: F-A,S-A  
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code  
N/A  
Transport/Additional information:  
DOT  
Marine Pollutant (DOT):  
No  
Remarks:  
Special marking with the symbol (fish and tree).  
UN "Model Regulation":  
UN2570, Cadmium compounds (Cadmium iodide), 6.1, III

---

## SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture  
GHS GHS label elements, including precautionary statements  
Hazard pictograms  
GHS06  
GHS08  
Signal word  
Danger  
Hazard statements  
H301+H331 Toxic if swallowed or if inhaled.  
H351  
Suspected of causing cancer.  
H373  
May cause damage to the kidneys, the liver, the reproductive system and the blood through prolonged or repeated exposure. Route of exposure: Oral.  
Precautionary statements  
P260  
Do not breathe dust/fume/gas/mist/vapors/spray.  
P261  
Avoid breathing dust/fume/gas/mist/vapors/spray.  
P281  
Use personal protective equipment as required.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...  
P405  
Store locked up.  
P501  
Dispose of contents/container in accordance with local/regional/national/international regulations.  
National regulations  
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.  
All components of this product are listed on the Canadian Domestic Substances List (DSL).  
SARA Section 313 (specific toxic chemical listings)  
7790-80-9 Cadmium iodide  
California Proposition 65  
Prop 65 - Chemicals known to cause cancer  
7790-80-9 Cadmium iodide  
Prop 65 - Developmental toxicity  
Substance is not listed.  
Prop 65 - Developmental toxicity, female

Substance is not listed.  
Prop 65 - Developmental toxicity, male  
Substance is not listed.  
Information about limitation of use:  
For use only by technically qualified individuals.  
Other regulations, limitations and prohibitive regulations  
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.  
Substance is not listed.  
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.  
Substance is not listed.  
Annex XIV of the REACH Regulations (requiring Authorisation for use)  
Substance is not listed.  
Chemical safety assessment:  
A Chemical Safety Assessment has not been carried out.

---

## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). 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. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.