SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: (4N) 99.99% Cadmium Telluride

Product Code: CD-TE-04

CAS Number: 1306-25-8

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
Classification according to Regulation (EC) No 1272/2008
GHS07
Acute Tox. 4 H302 Harmful if swallowed.
Acute Tox. 4 H312 Harmful in contact with skin.
Acute Tox. 4 H332 Harmful if inhaled.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC
Xn; Harmful
R20/21/22: Harmful by inhalation, in contact with skin and if swallowed.
N; Dangerous for the environment
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Information concerning particular hazards for human and environment:
N/A
Hazards not otherwise classified
No data available
Label elements
Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labeled according to the CLP regulation.
Hazard pictograms



GHS07
Signal word
Warning
Hazard statements
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell.
P312 Call a POISON CENTER/doctor/.../if you feel unwell.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
WHMIS classification
D2A - Very toxic material causing other toxic effects
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
HEALTH
FIRE
REACTIVITY
2
0
1
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:
1306-25-8 Cadmium telluride
Identification number(s):
EC number:
215-149-9
Index number:
048-001-00-5

SECTION 4. FIRST AID MEASURES

Description of first aid measures

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:
Seek medical treatment.
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:
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.
Do not allow product to enter drains, sewage systems, or other water courses.
Do not allow material to penetrate the ground or soil.
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.
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:
No data available
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well-sealed containers.
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:
Tellurium and tellurium compounds (as Te)
mg(Te)/m3
ACGIH TLV 0.1
Austria MAK 0.1
Belgium TWA 0.1
Denmark TWA 0.1
Finland TWA 0.1; 0.3-STEL
France VME 0.1
Germany MAK 0.1
Korea TLV 0.1
Netherlands MAC-TGG 0.1
Norway TWA 0.1
Poland TWA 0.01; 0.03-STEL
Sweden NGV 0.1
Switzerland MAK-W 0.1; 0.5-KZG-W
United Kingdom TWA 0.1
USA PEL 0.1
Cadmium and compounds, as Cd
mg/m3
ACGIH TLV 0.01; Suspected human carcinogen
Austria Carcinogen
Belgium TWA 0.05
Denmark TWA 0.01
Finland TWA 0.02; Carcinogen
France VME 0.05
Germany Carcinogen

Ireland TWA 0.025; Carcinogen
Japan OEL 0.05; Group 1 carcinogen
Korea TLV 0.01; Suspected human carcinogen
Netherlands MAC-TGG 0.02; 0.1-MAC-K
Norway TWA 0.05
Poland TWA 0.02; 0.05-STEL (fume)
Poland TWA 0.04; 0.2-STEL (dust)
Russia 0.01; 0.05-STEL
Sweden NGV 0.05 (total dust)
Sweden TWA 0.01 (resp. dust)
Switzerland MAK-W 0.05; Carcinogen
United Kingdom TWA 0.025
USA PEL 0.005
Cadmium and compounds, as Cd
mg/m3
ACGIH TLV 0.002(Cd); Suspected human carcinogen
Austria Carcinogen
Belgium TWA 0.05
Denmark TWA 0.01
Finland TWA 0.02; Carcinogen
France VME 0.05
Germany Carcinogen
Ireland TWA 0.025; carcinogen
Japan OEL 0.05; Group 1 Carcinogen
Korea TLV 0.01; Suspected human carcinogen
Netherlands MAC-TGG 0.02; 0.1-MAC-K
Norway TWA 0.05
Poland TWA 0.02; 0.05-STEL (fume)
0.04; 0.2-STEL (dust)
Russia 0.01; 0.05-STEL
Sweden NGV 0.05 (total dust)
TWA 0.01 (resp. dust)
Switzerland MAK-W 0.05; Carcinogen
United Kingdom TWA 0.025(Cd)
USA PEL (respirable) 0.2(Cd)
1306-25-8 Cadmium telluride (100.0%)

PEL (USA) Long-term value: 0.005 mg/m^3
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^3
as Cd; *respirable fraction; BEI

EL (Canada) Long-term value: 0.1 mg/m^3
as Te
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.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment:
Use suitable respirator when high concentrations are present.

Refer to 29CFR1910.1027 for regulations on respiratory protecti
on required during exposure to cadmium and cadmium compounds.
Refer to 29CFR1910.1027 for regulations on respiratory protection required during exposure to cadmium and cadmium compounds.
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.
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 or solid
Color: Gray to Black
Odor: Odorless
Odor threshold: Not determined.
pH: N/A
Melting point/Melting range: 1041 °C (1906 °F)
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined
Flash point: N/A
Flammability (solid, gas)
Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Autoignition: Not determined
Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined
Upper: Not determined
Vapor pressure: N/A

Density at 20 °C (68 °F): 6.2 g/cm^3 (51.739 lbs/gal)
Relative density
Not determined.
Vapor density
N/A
Evaporation rate
N/A
Solubility in Water (H_2O): Insoluble

Partition coefficient (n-octanol/water): Not determined.
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
No data available
Hazardous decomposition products:
Toxic metal oxide fume

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
Harmful if inhaled.
Harmful in contact with skin.
Harmful if swallowed.
Danger through skin absorption.
LD/LC50 values that are relevant for classification:
No data
Skin irritation or corrosion:
Irritant to skin and mucous membranes.
Eye irritation or corrosion:
Irritating effect.
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
No effects known.
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:
No effects known.
Specific target organ system toxicity - repeated exposure:
No effects known.
Specific target organ system toxicity - single exposure:
No effects known.
Aspiration hazard: No effects known.

Subacute to chronic toxicity:
Cadmium and cadmium compounds are highly toxic and experimental carcinogens. Exposure affects the respiratory tract, kidneys, and liver. Ingestion may cause nausea, salivation, vomiting and diarrhea. Ingestion or inhalation of cadmium/cadmium compounds may be fatal.
Tellurium is converted in the body to dimethyl telluride which imparts a garlic-lik
e odor to the breath and sweat. Heavy exposure may result in headache,
drowsiness, metallic taste, loss of appetite, nausea, tremors, convulsions, and respiratory arrest.
Cadmium compounds are highly toxic and experimental carcinogens. Exposure affects the respiratory tract, kidneys, and liver.
Ingestion may cause nausea, salivation, vomiting and diarrhea. Ingestion or inhalation of cadmium compounds may be fatal.
Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:
Behavioral - tremor.
Behavioral - changes in motor activity (specific assay).
Nutritional and Gross Metabolic - weight loss or decreased weight gain.
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
Ecotoxical 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.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN3077
UN proper shipping name
DOT
Environmentally hazardous substances, solid, n.o.s. (Cadmium telluride)
IMDG, IATA
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cadmium telluride)
Transport hazard class(es)
DOT, IMDG
Class
9 Miscellaneous dangerous substances and articles.
Label
9
Class
9 (M7) Miscellaneous dangerous substances and articles
Label
9
IATA
Class
9 Miscellaneous dangerous substances and articles.
Label
9
Packing group
DOT, IMDG, IATA
III
Environmental hazards: Special marking (ADR):
Symbol (fish and tree)
Special marking (IATA):
Symbol (fish and tree)
Special precautions for user
Warning: Miscellaneous dangerous substances and articles
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information: DOT
Marine Pollutant (DOT): No
UN "Model Regulation":
UN3077, Environmentally hazardous substances, solid, n.o.s. (Cadmium telluride),
9, III

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
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).
This product contains a chemical known to the state of California to cause cancer and/or reproductive toxicity.
SARA Section 313 (specific toxic chemical listings)
1306-25-8 Cadmium telluride
California Proposition 65
Prop 65 - Chemicals known to cause cancer
1306-25-8 Cadmium telluride
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.
This product contains cadmium and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.
This product contains cadmium and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.
Other regulations, limitations and prohibitive regulations
Refer to 29CFR1910.1027 for regulations concerning cadmium and cadmium compounds.
Refer to 29CFR1910.1027 for regulations concerning cadmium and cadmium compounds.
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.
REACH - Pre-registered substances
Substance is listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

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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.
