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### 1. Product and Company Identification

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Trade Name: Cadmium telluride  
Chemical Formula: CdTe  
Recommended Use: Scientific research and development

Manufacturer/Supplier: Stanford Advanced Materials

Street: 23661 Birtcher Dr.  
City: Lake Forest  
State: California  
Zip Code: 92630  
Country: USA  
Tel #: (949) 407-8904

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### 2. Hazards Identification

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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/vapor  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):  
Health: 2  
Flammability: 0  
Physical: 1

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### 3. Composition

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Chemical Family: Ceramic  
Additional Names: Irtran-6

Cadmium telluride (CdTe):  
Percentage: 100 wt%  
CAS #: 1306-25-8  
EC #: 215-149-9

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#### 4. First Aid Procedures

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General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek immediate medical attention.
Ingestion:	Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek immediate medical attention.

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#### 5. Firefighting Measures

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Flammability:	Non-flammable.
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

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#### 6. Accidental Release Measures

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If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

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#### 7. Handling and Storage

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Handling Conditions: Storage Conditions:	Wash thoroughly after handling. Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

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#### 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits:	0.005 mg/m <sup>3</sup> as Cd, long-term value
Threshold Limit Value:	0.01 mg/m <sup>3</sup> as Cd, long-term value 0.002 mg/m <sup>3</sup> as Cd, respirable fraction, long-term value
Special Equipment:	None
Respiratory Protection:	Refer to 29CFR1910.1027 for regulations on respiratory protection required during exposure to cadmium and cadmium compounds.
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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## 9. Physical and Chemical Characteristics

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Color	Black
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	1041 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	6.2 g/cc
Molecular weight:	240.01 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Metal oxide fume

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## 11. Toxicological Information

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### Potential Health Effects:

Eyes:	Causes irritation
Skin:	Danger through skin absorption, Harmful.
Ingestion:	Harmful
Inhalation:	Harmful
Chronic:	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. 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.

Signs & Symptoms: Aggravated N/A

Medical Conditions: N/A

Median Lethal Dose: N/A

Carcinogen: IARC-1: carcinogenic to humans: sufficient evidence of carcinogenicity.  
EPA-B1: Probable human carcinogen, limited evidence of carcinogenicity from epidemiologic studies.  
ACGIH A2: Suspected human carcinogen: Agent is carcinogenic in experimental animals at dose levels, by routes of administration, at sites, of histologic types, or by mechanisms 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.

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## 12. Ecological Information

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Aquatic Toxicity: High  
Persistent Bioaccumulation Toxicity: No  
Very Persistent, Very Bioaccumulative: No  
Notes: Very toxic for aquatic organism.  
May cause long lasting harmful effect on aquatic life.  
Do not allow material to be released to the environment without proper governmental permits.  
Do not allow product to reach any water sources.  
Danger to drinking water if even extremely small quantities leak into the ground.

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## 13. Disposal Considerations

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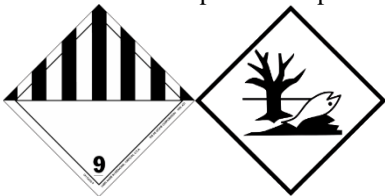
Dispose of in accordance with local, state, national, and international regulations.

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## 14. Transportation Data

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Hazardous: Hazardous as pieces and powder.



Hazard Class: Packing 9 Miscellaneous dangerous substances and articles.  
Group: III  
UN Number: UN3077  
Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (Cadmium telluride)

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## 15. Regulatory Information

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Sec 302 Extremely Hazardous: No  
Sec 304 Reportable Quantities: N/A  
Sec 313 Toxic Chemicals: Yes

Other regulations, limitations and prohibitive regulations: Refer to 29CFR1910.1027 for regulations concerning cadmium and cadmium compounds.

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## 16. Other Information

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This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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