

SAFETY DATA SHEET

CADMIUM TELLURIDE OPTICAL CRYSTAL

According to Regulation (EC) No.1907/2006 (REACH)



1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

CHEMICAL NAME: Cadmium Telluride
SYNONYMS, TRADE NAMES: CdTe
DESCRIPTION: Solid Inorganic Polycrystalline pieces
USAGE: Optical Material for manufacture of Optical Components.
APPEARANCE: White or clear solid. No odour
SUPPLIER: CRYSTRAN LTD, 1 Broom Road Business Park, Poole, Dorset UK BH12 4PA
☎ +44 1202 307650 ✉ sales@crystran.co.uk

2. HAZARDS IDENTIFICATION



Xn Harmful by inhalation, in contact with skin and if swallowed.

N Very Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Class 9 Environmentally Hazardous Substance

Signal: Warning
H302 Harmful if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled

Signal: Warning
H410 Very toxic to aquatic life with long lasting effects

Prevention:
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when handling this product
P273 Avoid release to the environment.

Response:
P301+P310 IF SWALLOWED: Immediately call a poison centre or doctor. Rinse mouth.
P304+P312 IF INHALED: Call a poison centre or doctor/physician if you feel unwell.

3. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT NAME	CAS number	%	EC number (EINECS)	EU index	UN number
Cadmium Telluride	1306-25-8	100%	215-149-9	048-001-00-5	3077

4. FIRST AID MEASURES

GENERAL: Consult a doctor for specific advice.
EYES: Irrigate thoroughly with water for at least 15 minutes. Obtain medical attention.
SKIN: Wash thoroughly with soap and water. Dry area with clean towel. Remove contaminated clothing and wash clothing before re-use.
INHALATION: Remove to fresh air. Perform artificial respiration if breathing has stopped. When breathing is difficult, properly trained personnel may administer oxygen. Keep affected person warm and at rest. Obtain medical attention.
INGESTION: Do not induce vomiting. Wash out mouth thoroughly with water and give 2 cups of water to drink. Do not give carbonated drinks. NEVER MAKE UNCONSCIOUS PERSONS VOMIT OR DRINK FLUIDS. Obtain medical attention immediately!

5. FIRE FIGHTING MEASURES

FLASH POINT: Not Ignitable. Not Applicable
AUTO IGNITION TEMP: Not Applicable
EXTINGUISHING MEDIA: This product does not burn.
UNUSUAL FIRE HAZARDS: May evolve toxic fumes in a fire.

6. ACCIDENTAL RELEASE MEASURES

CONTAMINATION CLEANUP: Wear suitable protective clothing & equipment as listed under Exposure / Personal protection. Take up and containerize for proper disposal. Avoid making dust. Containerize any cleaning materials used for proper disposal.

7. HANDLING AND STORAGE

USAGE PRECAUTIONS: Keep away from heat. Avoid skin contact. Handle Carefully. Protect against physical damage. Avoid generating dust.
STORAGE PRECAUTIONS: Keep away from foodstuffs. Keep away from acids and strong bases.

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8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Protective gloves made of polyvinyl alcohol (PVA) are required. Use of a laboratory coat is suggested. Safety goggles or safety glasses with side shields are required if there is any possibility of chipping or dust creation. Respirators must be worn when the threshold limit is exceeded. Provide adequate general mechanical ventilation, and local exhaust ventilation. When handling quantities of this material, be sure to wear appropriate protective equipment as described. Eye wash should be readily available. Wash thoroughly after handling. Do not take internally. Avoid breathing dust when generated. For persons with sensitive existing medical conditions, medical advice should be sought before employing on tasks involving exposure to this material.

EXPOSURE LIMITS MEL, 0.025 mg/m³ Cd Long-term. - EXPOSURE LIMITS OES, 0.1 mg/m³ Te Long-term.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE :	Clear glassy geometric shapes, no odour.
pH IN AQUEOUS SOLUTION:	Not determined
BOILING POINT (760mm Hg)	Not known
MELTING POINT:	1041°C
FLASH POINT:	Not Applicable
FLAMMABILITY:	Not Applicable
EXPLOSIVE PROPERTIES:	Not Applicable
SPECIFIC GRAVITY:	6.2
VAPOUR PRESSURE:	Not Applicable
SOLUBILITY IN WATER:	Practically Insoluble

10. STABILITY AND REACTIVITY

STABILITY:	Stable under normal conditions of storage and use.
HAZARDOUS DECOMPOSITION:	Reaction with oxidisers possible.
MATERIALS TO AVOID:	Acids

11. TOXICOLOGICAL INFORMATION

TOXIC DOSE - LD50	> 15 g/kg (mouse)
CARCINOGENICITY:	Should be treated as a suspected carcinogen.
MUTAGENICITY/TERATOGENICITY:	May cause adverse mutagenic or teratogenic effects.
TOXICOLOGICAL FINDINGS:	If swallowed causes nausea, vomiting, stomach pains and diarrhoea. Also harmful in contact with skin. Particular care must be exercised when machining and creating dust or particles.

The following applies to cadmium compounds in general: mucosal irritations, coughing, and dyspnoea after inhalation. Inhalation may lead to the formation of oedemas in the respiratory tract. Toxic effect on gastrointestinal tract. Long-term exposure to the chemical results in toxic effect on kidneys, lungs, bones.

The following applies to tellurium compounds in general: after oral uptake, the compound is mostly reduced to metallic tellurium and subsequently eliminated with the faeces (blue-grey). After inhalation or ingestion: metallic taste, dryness in mouth. Possible in extreme cases: gastrointestinal complaints, cyanosis, unconsciousness, collapse, in some cases risk of liver and kidney damage.

12. ECOLOGICAL INFORMATION

The following applies to cadmium compounds in general: degradability: biodegradability 0; biological effects: fish: L.macrochirus 96 h. LDLo: 1.94 mg/l; C. auratus 8.5 h. toxic from 0.0165 mg/l up; bacteria: E. coli toxic from 0.15 mg/l up; arthropods: Daphnia toxic 0.1 mg/l; Daphnia magna toxic from 0.0026 mg/l up; protozoa: toxic from 0.2 mg/l up; algae: Sc.quadricauda toxic from 0.1 mg/l up; hazard for drinking water.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Chemical residues are generally classified as special waste, and are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company.

14. TRANSPORT INFORMATION

Class	UN	Packing Group	Proper Shipping Name
9	3077	III	Environmentally Hazardous Substance, Solid, N.O.S. (Cadmium Telluride)

15. REGULATORY INFORMATION

Hazard Symbols:	T - Toxic	N - Dangerous for the environment
Risk Phrases:	R20/21/22 50/53	Harmful by inhalation, in contact with skin and if swallowed. Very toxic to aquatic organisms. May cause long-term adverse effects in aquatic environment
Safety Phrases	S60-61	This material and its container must be disposed of as hazardous waste. Avoid release to the environment.

Note that the Risk and Safety Phrases included here for completeness are being replaced with the GHS Hazard and Precautionary statements given in section 2.

16. OTHER INFORMATION

REVISION DATE: May 2012 Supercedes issue of October 2009 (Changes in Section: 1, 2, 3, (2 & 3 reversed), 8, 11, 14, 15

The above information is believed to be correct but does not purport to be all inclusive and must be used only as a guide.

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