



Materials Safety Data Sheet

Cadmium Telluride Powder

1. Product and Company Identification

Product Name: Cadmium Telluride

Formula: CdTe

CAS: 1306-25-8

EC No.: 215-149-9

Synonyms: None

Recommended Use: Laboratory chemicals, Scientific research

Uses advised against: N/A

Supplier: UltraPurMat Group Co., Ltd

Address: Room307, Building2, Tengfei Innovation Center, No38Gaoxin 6th Road, High-tech Zone, Xi'an Shaanxi China

Tel: +86-29-88993870

Email: sales@ulpmat.com

Website: www.ulpmat.com

24-Hour Emergency Contact: +86-13572830939

2. Hazards Identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Acute toxicity, Oral Category 4 (H302)

Acute toxicity, Inhalation Category 4 (H332)

Acute toxicity, Dermal Category 4 (H312)

Carcinogenicity Category 1B (H350)

STOT - repeated exposure Category 1 (H372)

Acute aquatic toxicity Category 1 (H400)

Chronic aquatic toxicity Category 1 (H410)

GHS Label elements, including precautionary statements

Pictogram:



Signal Word: Danger

Hazard statement(s):

H302+H312+H332: Harmful if swallowed, in contact with skin or if inhaled.

H350: May cause cancer.

H372: Causes damage to organs through prolonged or repeated exposure.

H400: Very toxic to aquatic life

H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

P202: Do not handle until all safety precautions have been read and understood.

P260: Do not breathe dust/fume/gas/mist/vapours/spray.

P264: Wash contaminated skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P313: IF exposed: Get medical advice/attention.

P403: Store in a well-ventilated place.

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards: None

3. Composition

Components	CAS	Classification (H)	Concentration
Cadmium Telluride (CdTe)	1306-25-8	H302; H312; H332; H350; H372; H400; H410	≤100%

4. First Aid Procedures

Description of first aid measures

General Treatment: If symptoms persist, call a physician. Show this Safety Data Sheet to the medical personnel.

Inhalation: Remove victim to fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

Skin: Take off immediately all contaminated clothing. Rinse skin with water/shower. Seek medical attention.

Eyes: Rinse with pure water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

No data available

5. Firefighting Measures

Extinguishing Media: The product is not combustible. Dust formation should be avoided. Thermal decomposition or fire conditions may release toxic cadmium compounds and tellurium oxides.

Unsuitable extinguishing media: N/A

Special hazards arising from the substance or mixture

Hazardous decomposition products may include cadmium compounds, cadmium oxides, and tellurium oxides.

Advice for firefighters

Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

Further information

No data available

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

Environmental precautions

Isolate runoff to prevent environmental pollution.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

Refer to protective measures listed in Sections 13.

7. Handling and Storage

Precautions for safe handling

Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid formation of dust. Do not get in eyes, on skin, or on clothing. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Ventilation requirements: Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep locked up.

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

8. Exposure Controls/Personal Protection

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Protective gloves (The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.)

Body Protection

Protective work clothing. Wear close-toed shoes and long sleeves/pants.

Respiratory protection

Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and Chemical Characteristics

Information on basic physical and chemical properties

Form: Solid Powder

Colour: Black

Odor: Odorless

pH: No data available

Melting Point: 1041°C

Boiling Point: No data available

Flash Point: No data available

Evaporation Rate: No data available

Flammability: No data available

Upper/lower flammability or explosive limits: No data available

Vapor Pressure: No data available

Relative density: No data available

Water solubility: (practically insoluble)

Partition coefficient: n-octanol/water: not relevant (inorganic)

Auto-ignition temperature: :No data available

Decomposition temperature: No data available

Viscosity: No data available

Other information

Molecular formula: CdTe

Molecular weight: 240.01 g/mol

10. Stability and reactivity

Reactivity

None known, based on information available.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Hazardous Polymerization: No information available.

Conditions to avoid

No data available.

Incompatible materials

Strong oxidizing agents. Strong acids.

Hazardous decomposition products

Cadmium/cadmium oxides, Tellurium oxides. In the event of fire: see Section 5.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Oral: No data available.

Skin corrosion/irritation

No data available.

Serious eye damage/eye irritation

No data available.

Respiratory or skin sensitisation

Respiratory: No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

Cadmium and cadmium compounds are classified as carcinogenic substances. Exposure to cadmium-containing materials may increase the risk of cancer.

Reproductive toxicity

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Specific target organ toxicity -single exposure

No data available.

Specific target organ toxicity -repeated exposure

Blood, Respiratory system, Kidney, Prostate, Lungs. Causes damage to organs through prolonged or repeated exposure (if inhaled)

Aspiration hazard

Not applicable. Solid.

Additional Information

Endocrine Disrupting Properties: Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

12. Ecological Information

Toxicity

Classified as very toxic to aquatic life with long lasting effects

Persistence and degradability

Persistence: No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment.

Other adverse effects

Persistent Organic Pollutant: This product does not contain any known or suspected substance.

13. Disposal Considerations

Waste treatment methods

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible, otherwise incineration is the recommended method of disposal. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste. Containers should be cleaned by appropriate methods and then re-used or disposed of by landfill or incineration as appropriate. Do not incinerate closed containers.

14. Transportation Information

ADR

UN Number: UN2570

UN Proper shipping name: CADMIUM COMPOUND (Cadmium telluride)

Transport hazard class(es): 6.1

Packaging group: III

IMDG

UN Number: UN2570

UN Proper shipping name: CADMIUM COMPOUND (Cadmium telluride)

Transport hazard class(es): 6.1

Packaging group: III

IATA

UN Number: UN2570

UN Proper shipping name: CADMIUM COMPOUND (Cadmium telluride)

Transport hazard class(es): 6.1

Packaging group: III

15. Regulatory information

This Safety Data Sheet is prepared in accordance with Commission Regulation (EC) 1907/2006, amended by Commission Regulation (EU) 2020/878.

Authorisations/Restrictions: Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: Not applicable.

Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: Use restricted. See item 75. (see link for restriction details)

Regulation (EC) 1005/2009 on substances that deplete the ozone layer: Not applicable

Regulation (EC) 850/2004 on persistent organic pollutants, amended by (EU) No 2019/1021: Not applicable

Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

16. Other information

Revision Date:

2026-09-17

Version:

1.0

Disclaimer

The information of this safety data sheet 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.