

ALFAA44412

Zinc telluride

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明: 碲化锌
Product Description: Zinc telluride

Cat No. : 44412
CAS No 1315-11-3
Molecular Formula ZnTe

Supplier Avocado Research Chemicals Ltd.
(Part of Thermo Fisher Scientific)
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Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State
Solid

Appearance
No information available

Odor
Odorless

Emergency Overview
Harmful if swallowed. Harmful if inhaled.

Classification of the substance or mixture

| | |
|---|------------|
| Acute Oral Toxicity | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 |

Label Elements



Signal Word

Warning

Hazard Statements

H302 + H332 - Harmful if swallowed or if inhaled

Zinc telluride

Precautionary Statements**Prevention**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed 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

Response

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P312 - Call a POISON CENTER or doctor if you feel unwell
P330 - Rinse mouth

Storage

P403 - Store in a well-ventilated place

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Physical and Chemical Hazards

None identified.

Health Hazards

Harmful if swallowed. Harmful if inhaled.

Environmental hazards

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. Is not likely mobile in the environment due its low water solubility. Spillage unlikely to penetrate soil.

This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|-----------------------|-----------|----------|
| Zinc telluride (ZnTe) | 1315-11-3 | <=100 |

SECTION 4. FIRST AID MEASURES**General Advice**

If symptoms persist, call a physician.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects

None reasonably foreseeable.

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Notes to Physician

Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Not combustible.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES**Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE**Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

Storage

Keep container tightly closed in a dry and well-ventilated place.

Specific Use(s)

Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control Parameters**

| Component | China | Taiwan | Thailand | Hong Kong |
|-----------------------|-------|----------------------------|----------|-----------|
| Zinc telluride (ZnTe) | - | TWA: 0.1 mg/m ³ | | - |

| Component | ACGIH TLV | OSHA PEL | NIOSH | The United Kingdom | European Union |
|-----------------------|----------------------------|--------------------------------------|--|---|----------------|
| Zinc telluride (ZnTe) | TWA: 0.1 mg/m ³ | (Vacated) TWA: 0.1 mg/m ³ | IDLH: 25 mg/m ³ TWA: 0.1 mg/m ³ | STEL: 0.3 mg/m ³ 15 min TWA: 0.1 mg/m ³ 8 hr | |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH: NIOSH - National Institute for Occupational Safety and Health

Zinc telluride

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry MDHS 99 Metals in air by ICP-AES

Exposure Controls**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|----------------|-----------------------------------|-----------------|-------------|-----------------------|
| Butyl rubber | See manufacturers recommendations | - | EN 374 | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use In case of insufficient ventilation, wear suitable respiratory equipment
Recommended Filter type: Particulates filter conforming to EN 143

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Physical State Solid

Odor Odorless

Odor Threshold No data available

pH No information available

Melting Point/Range 1240 °C / 2264 °F

Softening Point No data available

Boiling Point/Range No information available

Flash Point No information available

Evaporation Rate Not applicable

Flammability (solid,gas) No information available

Method - No information available
Solid

SAFETY DATA SHEET**Zinc telluride**

| | | |
|--|--------------------------|---------|
| Explosion Limits | No data available | |
| Vapor Pressure | No data available | |
| Vapor Density | Not applicable | Solid |
| Specific Gravity / Density | 6.34 g/cm ³ | @ 20 °C |
| Bulk Density | No data available | |
| Water Solubility | Insoluble in water | |
| Solubility in other solvents | No information available | |
| Partition Coefficient (n-octanol/water) | | |
| Autoignition Temperature | No data available | |
| Decomposition Temperature | No data available | |
| Viscosity | Not applicable | Solid |
| Explosive Properties | No information available | |
| Oxidizing Properties | No information available | |
| Molecular Formula | ZnTe | |
| Molecular Weight | 192.97 | |

SECTION 10. STABILITY AND REACTIVITY

| | |
|---------------------------------|---------------------------------|
| Stability | Stable under normal conditions. |
| Hazardous Reactions | None under normal processing. |
| Hazardous Polymerization | No information available. |
| Conditions to Avoid | None known. |
| Materials to avoid | Acids. Oxidizing agent. |

Hazardous Decomposition Products Tellurium oxide. Hydrogen telluride (H₂Te). Zinc oxide.

SECTION 11. TOXICOLOGICAL INFORMATION**Product Information****(a) acute toxicity;**

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

| | |
|--------------------|-------------------|
| Respiratory | No data available |
| Skin | No data available |

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

| | |
|--|---------------------------|
| (i) STOT-repeated exposure; | No data available |
| Target Organs | No information available. |
| (j) aspiration hazard; | Not applicable Solid |
| Symptoms / effects, both acute and delayed | No information available |

SECTION 12. ECOLOGICAL INFORMATION

| | |
|---------------------------------------|---|
| Ecotoxicity effects | May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system. |
| Persistence and Degradability | Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary |
| Persistence | Insoluble in water, May persist. |
| Degradation in sewage treatment plant | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants. |
| Bioaccumulative Potential | May have some potential to bioaccumulate; Product has a high potential to bioconcentrate |
| Mobility in soil | Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility |
| Endocrine Disruptor Information | This product does not contain any known or suspected endocrine disruptors |
| Persistent Organic Pollutant | This product does not contain any known or suspected substance |
| Ozone Depletion Potential | This product does not contain any known or suspected substance |

SECTION 13. DISPOSAL CONSIDERATIONS

| | |
|-------------------------------------|--|
| Waste from Residues/Unused Products | Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. |
| Contaminated Packaging | Dispose of this container to hazardous or special waste collection point. |
| Other Information | Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. |

SECTION 14. TRANSPORT INFORMATION

| | |
|--------------------------------|---------------|
| <u>Road and Rail Transport</u> | Not Regulated |
| <u>IMDG/IMO</u> | Not regulated |
| <u>IATA</u> | Not regulated |

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Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

| Component | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|-----------------------|---|---|------|-------|-----------|------|-----|-------|------|------|------|----------|
| Zinc telluride (ZnTe) | - | X | X | - | 215-260-2 | X | - | - | - | - | - | KE-35599 |

National Regulations

SECTION 16. OTHER INFORMATION

Prepared By Health, Safety and Environmental Department
Revision Date 01-May-2024
Revision Summary New emergency telephone response service provider.

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Disclaimer

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End of Safety Data Sheet