

ALFAA45926

## Cerium sputtering target

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

**产品说明:**  
**Product Description:** 钪溅射靶  
**Cerium sputtering target**

**Cat No. :** 45926  
**CAS No** 7440-45-1  
**Molecular Formula** Ce

**Supplier** Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
Shore Road, Heysham  
Lancashire, LA3 2XY,  
United Kingdom  
Office Tel: +44 (0) 1524 850506  
Office Fax: +44 (0) 1524 850608

**Emergency Telephone Number** For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
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**  
Grey

**Odor**  
No information available

#### Emergency Overview

Flammable solid. Causes damage to organs. Very toxic to aquatic life with long lasting effects.

#### Classification of the substance or mixture

|                                                    |            |
|----------------------------------------------------|------------|
| Flammable solids.                                  | Category 1 |
| Specific target organ toxicity - (single exposure) | Category 1 |
| Acute aquatic toxicity                             | Category 1 |
| Chronic aquatic toxicity                           | Category 1 |

#### Label Elements



**Signal Word**

**Danger**

**Hazard Statements**

H228 - Flammable solid

H370 - Causes damage to organs

H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements****Prevention**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P240 - Ground and bond container and receiving equipment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P370 + P378 - In case of fire: Use fire-fighting equipment on basis class D to extinguish

**Storage**

P403 - Store in a well-ventilated place

**Disposal**

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

**Physical and Chemical Hazards**

Combustible material.

**Health Hazards**

Causes damage to organs.

**Environmental hazards**

Very toxic to aquatic life with long lasting effects.

This product does not contain any known or suspected endocrine disruptors. Toxic to terrestrial vertebrates.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

| Component | CAS No    | Weight % |
|-----------|-----------|----------|
| Cerium    | 7440-45-1 | <=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**

Dry sand, Dry sodium chloride approved class D extinguishers.

**Extinguishing media which must not be used for safety reasons**

Water may be ineffective.

**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. No special precautions required.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Pick up and transfer to properly labelled containers.

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 in a dry place. Keep away from acids.

**Specific Use(s)**

Use in laboratories

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

**Exposure Controls****Engineering Measures**

None under normal use conditions. .

## Cerium sputtering target

## Personal protective equipment

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

**Hand Protection** No special protective equipment required

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

**Skin and body protection** Long sleeved clothing

**Respiratory Protection** No special protective equipment required.

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143

**Small scale/Laboratory use** No personal respiratory protective equipment normally required 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.  
**Recommended half mask:-** Particle filtering: EN149:2001  
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

|                                                |                          |                                          |
|------------------------------------------------|--------------------------|------------------------------------------|
| <b>Appearance</b>                              | Grey                     |                                          |
| <b>Physical State</b>                          | Solid                    |                                          |
| <b>Odor</b>                                    | No information available |                                          |
| <b>Odor Threshold</b>                          | No data available        |                                          |
| <b>pH</b>                                      | Not applicable           |                                          |
| <b>Melting Point/Range</b>                     | 795 °C / 1463 °F         |                                          |
| <b>Softening Point</b>                         | No data available        |                                          |
| <b>Boiling Point/Range</b>                     | No information available |                                          |
| <b>Flash Point</b>                             | No information available | <b>Method -</b> No information available |
| <b>Evaporation Rate</b>                        | Not applicable           | Solid                                    |
| <b>Flammability (solid,gas)</b>                | No information available |                                          |
| <b>Explosion Limits</b>                        | No data available        |                                          |
| <b>Vapor Pressure</b>                          | No data available        |                                          |
| <b>Vapor Density</b>                           | Not applicable           | Solid                                    |
| <b>Specific Gravity / Density</b>              | 6.670                    |                                          |
| <b>Bulk Density</b>                            | No data available        |                                          |
| <b>Water Solubility</b>                        | No information available |                                          |
| <b>Solubility in other solvents</b>            | No information available |                                          |
| <b>Partition Coefficient (n-octanol/water)</b> |                          |                                          |
| <b>Autoignition Temperature</b>                | No data available        |                                          |
| <b>Decomposition Temperature</b>               | No data available        |                                          |
| <b>Viscosity</b>                               | Not applicable           | Solid                                    |
| <b>Explosive Properties</b>                    | No information available |                                          |
| <b>Oxidizing Properties</b>                    | No information available |                                          |

## Cerium sputtering target

|                   |        |
|-------------------|--------|
| Molecular Formula | Ce     |
| Molecular Weight  | 140.12 |

**SECTION 10. STABILITY AND REACTIVITY**

|                          |                                          |
|--------------------------|------------------------------------------|
| Stability                | Moisture sensitive.                      |
| Hazardous Reactions      | None under normal processing.            |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Conditions to Avoid      | None known.                              |
| Materials to avoid       | Water. Acids.                            |

Hazardous Decomposition Products Heavy metal oxides.

**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                              | None known.                                               |
| (j) aspiration hazard;                     | Not applicable                                            |
|                                            | Solid                                                     |
| Symptoms / effects, both acute and delayed | No information available                                  |

**SECTION 12. ECOLOGICAL INFORMATION**

## Cerium sputtering target

**Ecotoxicity effects** Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

**Persistence and Degradability**  
**Degradability** No information available  
Not relevant for inorganic substances.

**Bioaccumulative Potential** No information available

**Mobility in soil** No information available

**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. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

**Other Information** Waste codes should be assigned by the user based on the application for which the product was used. Do not flush to sewer. Can be landfilled or incinerated, when in compliance with local regulations.

**SECTION 14. TRANSPORT INFORMATION****Road and Rail Transport**

**UN-No** UN1333  
**Proper Shipping Name** CERIUM  
**Hazard Class** 4.1  
**Packing Group** II

**IMDG/IMO**

**UN-No** UN1333  
**Proper Shipping Name** CERIUM  
**Hazard Class** 4.1  
**Packing Group** II

**IATA**

**UN-No** UN1333  
**Proper Shipping Name** CERIUM  
**Hazard Class** 4.1  
**Packing Group** II

**Special Precautions for User** No special precautions required

**SECTION 15. REGULATORY INFORMATION**

## Cerium sputtering target

## 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 | IECSC | EINECS    | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL     |
|-----------|-----------------------------------------------------|-----------------------------------------|-------|-----------|------|-----|-------|------|------|------|----------|
| Cerium    | X                                                   | X                                       | X     | 231-154-9 | X    | X   | X     | X    |      | X    | KE-05379 |

## National Regulations

## SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 23-Jun-2008  
**Revision Date** 23-Jul-2026  
**Revision Summary** SDS sections updated.

## Training Advice

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

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

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

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**Disclaimer**

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**End of Safety Data Sheet**