

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**
**Product Identifier**

Perihal Produk: **Beryllium thinfoil**  
 Product Description: **Beryllium thinfoil**  
 Cat No. : 41611  
 CAS No 7440-41-7  
 Molecular Formula Be

**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use Laboratory chemicals.  
 Uses advised against No Information available

**Company**

Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd  
 Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,  
 No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,  
 Selangor Darul Ehsan, Malaysia.  
 Main line: +60 3-5525 7888

**Supplier**

E-mail address Enquiry.my@thermofisher.com

**Emergency Telephone Number**

Tel: +03-5525 7888  
 CHEMTREC Malaysia **1-800-815-308** (Malay)  
 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

|  |                     |
|--|---------------------|
| Acute oral toxicity                                  | Category 3 (H301)   |
| Acute Inhalation Toxicity - Dusts and Mists          | Category 2 (H330)   |
| Skin Corrosion/Irritation                            | Category 2 (H315)   |
| Serious Eye Damage/Eye Irritation                    | Category 2 (H319)   |
| Skin Sensitization                                   | Category 1 (H317)   |
| Carcinogenicity                                      | Category 1B (H350i) |
| Specific target organ toxicity - (single exposure)   | Category 3 (H335)   |
| Specific target organ toxicity - (repeated exposure) | Category 1 (H372)   |

**Label Elements**


# SAFETY DATA SHEET

Beryllium thinfoil

Revision Date 25-Mar-2025

## Signal Word

## Danger

### Hazard Statements

H319 - Causes serious eye irritation

H330 - Fatal if inhaled

H315 - Causes skin irritation

H335 - May cause respiratory irritation

H301 - Toxic if swallowed

H372 - Causes damage to organs through prolonged or repeated exposure

H317 - May cause an allergic skin reaction

H350i - May cause cancer by inhalation

### Precautionary Statements

#### Prevention

P201 - Obtain special instructions before use

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

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

P272 - Contaminated work clothing should not be allowed out of the workplace

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

P284 - Wear respiratory protection

#### Response

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

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P330 - Rinse mouth

P362 + P364 - Take off contaminated clothing and wash it before reuse

#### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

#### Disposal

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

### Other Hazards

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No    | Weight % |
|-----------|-----------|----------|
| Beryllium | 7440-41-7 | > 99     |

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

#### Eye Contact

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Rinse immediately with plenty of water, also under the eyelids, for at least 15

# SAFETY DATA SHEET

Beryllium thinfoil

Revision Date 25-Mar-2025

|   |  |
|---|--|
|   | minutes.   |
| <b>Skin Contact</b>                       | Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.  |
| <b>Ingestion</b>                          | Do NOT induce vomiting. Call a physician or poison control center immediately.   |
| <b>Inhalation</b>                         | Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. |
| <b>Self-Protection of the First Aider</b> | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.   |

## **Most important symptoms and effects, both acute and delayed**

None reasonably foreseeable. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

## **Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **Extinguishing media**

#### **Suitable Extinguishing Media**

Dry chemical.

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

Carbon dioxide (CO<sub>2</sub>).

### **Special hazards arising from the substance or mixture**

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

#### **Hazardous Combustion Products**

Beryllium oxide.

### **Advice for fire-fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **Personal Precautions, Protective Equipment and Emergency Procedures**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

### **Environmental precautions**

Should not be released into the environment. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

### **Methods and Material for Containment and Cleaning Up**

ALFAA41611

# SAFETY DATA SHEET

Beryllium thinfoil

Revision Date 25-Mar-2025

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

## Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Avoid dust formation. Use only under a chemical fume hood. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance.

### Conditions for Safe Storage, Including any Incompatibilities

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

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

| Component | Malaysia | ACGIH TLV                      | OSHA PEL  |
|-----------|----------|--------------------------------|---|
| Beryllium |          | TWA: 0.00005 mg/m <sup>3</sup> | (Vacated) TWA: 2 µg/m <sup>3</sup><br>Ceiling: 2 µg/m <sup>3</sup><br>(Vacated) STEL: 25 µg/m <sup>3</sup><br>(Vacated) Ceiling: 5 µg/m <sup>3</sup><br>TWA: 0.2 µg/m <sup>3</sup><br>STEL: 2 µg/m <sup>3</sup> |

| Component | European Union   | The United Kingdom   | Germany  |
|-----------|--|--|--|
| Beryllium | TWA: 0.0002 mg/m <sup>3</sup> (8h)<br>TWA: 0.0006 mg/m <sup>3</sup> (8h)<br>Skin | STEL: 0.006 mg/m <sup>3</sup> 15 min<br>TWA: 0.002 mg/m <sup>3</sup> 8 hr<br>Carc. | TWA: 0.00006 mg/m <sup>3</sup> (8 Stunden).<br>AGW - exposure factor 1<br>TWA: 0.00014 mg/m <sup>3</sup> (8 Stunden).<br>AGW - exposure factor 1 |

### Exposure Controls

#### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

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**

Goggles

#### **Hand Protection**

Protective gloves

#### **Skin and body protection**

Long sleeved clothing

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 compatibility, 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

# SAFETY DATA SHEET

Beryllium thinfoil

Revision Date 25-Mar-2025

of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

## Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

## Recommended Filter type:

Particulates filter conforming to EN 143

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

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

### Information on basic physical and chemical properties

**Appearance** Dark grey  
**Physical State** Solid  
**Odor** Odorless  
**Odor Threshold** No data available  
**pH** No information available

**Melting Point/Range** 1278 °C / 2332.4 °F  
**Softening Point** No data available  
**Boiling Point/Range** 2970 °C / 5378 °F @ 5 mmHg  
**Flash Point** No information available **Method -** No information available

**Evaporation Rate** Not applicable Solid  
**Flammability (solid,gas)** No information available  
**Explosion Limits** No data available

**Vapor Pressure** 1.85 mmHg  
**Vapor Density** Not applicable Solid  
**Specific Gravity / Density** No data available  
**Bulk Density** 1.85 @ 20°C  
**Water Solubility** Insoluble  
**Solubility in other solvents** No information available

### Partition Coefficient (n-octanol/water)

**Autoignition Temperature** Not applicable  
**Decomposition Temperature** No data available  
**Viscosity** Not applicable Solid  
**Explosive Properties** No information available  
**Oxidizing Properties** No information available

**Molecular Formula** Be  
**Molecular Weight** 9.01

# SAFETY DATA SHEET

Beryllium thinfoil

Revision Date 25-Mar-2025

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

None known, based on information available.

### Chemical Stability

Stable.

### Possibility of Hazardous Reactions

#### **Hazardous Polymerization Hazardous Reactions**

Hazardous polymerization does not occur.  
None under normal processing.

### Conditions to Avoid

Incompatible products.

### Incompatible Materials

Acids. Bases. Halogens. Metals.

### Hazardous Decomposition Products

Beryllium oxide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### **Product Information**

#### **(a) acute toxicity;**

Oral

Category 3

Dermal

No data available

Inhalation

Category 2

#### **(b) skin corrosion/irritation;**

Category 2

#### **(c) serious eye damage/irritation;**

Category 2

#### **(d) respiratory or skin sensitization;**

Respiratory

No data available

Skin

Category 1

May cause sensitization by skin contact

#### **(e) germ cell mutagenicity;**

No data available

#### **(f) carcinogenicity;**

Category 1B

# SAFETY DATA SHEET

Beryllium thinfoil

Revision Date 25-Mar-2025

The table below indicates whether each agency has listed any ingredient as a carcinogen

| Component | EU           | UK | Germany | IARC    |
|-----------|--------------|----|---------|---------|
| Beryllium | Carc Cat. 1B |    | Cat. 1  | Group 1 |

(g) reproductive toxicity; No data available

(h) STOT-single exposure; Category 3

Results / Target organs Respiratory system.

(i) STOT-repeated exposure; Category 1

Route of exposure Inhalation  
Target Organs Lungs.

(j) aspiration hazard; Not applicable  
Solid

Symptoms / effects, both acute and delayed Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing.

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

## 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.  
**Degradability** Not relevant for inorganic substances.  
**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

Other adverse effects No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

ALFAA41611

# SAFETY DATA SHEET

Beryllium thinfoil

Revision Date 25-Mar-2025

## 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

### IMDG/IMO

Not regulated

### Road and Rail Transport

Not regulated

### IATA

Not regulated

### Special Precautions for User

No special precautions required

## SECTION 15: REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### International Inventories

X = listed

| Component | EINECS    | TSCA | DSL | PICCS | ENCS | ISHL | IECSC | AICS | KECL     |
|-----------|-----------|------|-----|-------|------|------|-------|------|----------|
| Beryllium | 231-150-7 | X    | X   | X     | X    |      | X     | X    | KE-02829 |

| Component | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------|---|--|----------------------------|------------------------------------|
| Beryllium |   |  |                            | Annex I - Y20                      |

### National Regulations

#### Persistent Organic Pollutant Ozone Depletion Potential

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 16: OTHER INFORMATION

### 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



# SAFETY DATA SHEET

Beryllium thinfoil

Revision Date 25-Mar-2025

**WEL** - Workplace Exposure Limit  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**RPE** - Respiratory Protective Equipment  
**LC50** - Lethal Concentration 50%  
**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average  
**IARC** - International Agency for Research on Cancer  
**LD50** - Lethal Dose 50%  
**EC50** - Effective Concentration 50%

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road  
**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code  
**OECD** - Organisation for Economic Co-operation and Development  
**BCF** - Bioconcentration factor

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

|                         |   |
|-------------------------|---|
| <b>Prepared By</b>      | Health, Safety and Environmental Department |
| <b>Revision Date</b>    | 25-Mar-2025                                 |
| <b>Revision Summary</b> | SDS sections updated, 9.                    |

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

## Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of Safety Data Sheet**