

ALFAAA11906

## Phenylselenenyl bromide

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

<b>产品说明:</b> <b>Product Description:</b>	<b>苯基溴化硒, 98%</b> <b>Phenylselenenyl bromide</b>
<b>Cat No. :</b>	<b>A11906</b>
<b>Synonyms</b>	Benzeneselenenyl bromide
<b>CAS No</b>	34837-55-3
<b>Molecular Formula</b>	C6 H5 Br Se
<b>Supplier</b>	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
<b>Emergency Telephone Number</b>	For information <b>US</b> call: 001-800-227-6701 / <b>Europe</b> call: +32 14 57 52 11 Emergency Number <b>US</b> :001-201-796-7100 / <b>Europe</b> : +32 14 57 52 99 <b>CHEMTREC</b> Tel. No. <b>US</b> :001-800-424-9300 / <b>Europe</b> :001-703-527-3887
<b>E-mail address</b>	begel.sdsdesk@thermofisher.com
<b>Recommended Use</b>	Laboratory chemicals.
<b>Uses advised against</b>	No Information available

### SECTION 2. HAZARD IDENTIFICATION

Physical State	Appearance	Odor
Solid	Dark brown	Stench
<b>Emergency Overview</b>		
Toxic if swallowed. Causes severe skin burns and eye damage. Toxic if inhaled. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects. Moisture sensitive. Stench.		

#### Classification of the substance or mixture

Acute Oral Toxicity	Category 3
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity - (repeated exposure)	Category 2
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

#### Label Elements

**Signal Word****Danger****Hazard Statements**

H314 - Causes severe skin burns and eye damage  
 H373 - May cause damage to organs through prolonged or repeated exposure  
 H410 - Very toxic to aquatic life with long lasting effects  
 H301 + H331 - Toxic if swallowed or if inhaled

**Precautionary Statements****Prevention**

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

**Response**

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  
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower  
 P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 P331 - Do NOT induce vomiting  
 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

**Physical and Chemical Hazards**

None identified.

**Health Hazards**

Toxic if swallowed. Corrosive. Causes skin and eye burns. Toxic if inhaled. May cause damage to organs through prolonged or repeated exposure.

**Environmental hazards**

Very toxic to aquatic life with long lasting effects. Is not likely mobile in the environment due its low water solubility. Will likely be mobile in the environment due to its volatility. Spillage unlikely to penetrate soil. The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces.

**Other Hazards**

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

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Bromoselenobenzene	34837-55-3	98

### SECTION 4. FIRST AID MEASURES

**Eye Contact**

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

**Phenylselenenyl bromide****Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

**Inhalation**

Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.

**Ingestion**

Do NOT induce vomiting. Call a physician immediately.

**Most important symptoms and effects**

Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**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**

Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

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

No information available.

**Specific Hazards Arising from the Chemical**

Do not allow run-off from fire-fighting to enter drains or water courses.

**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.

**Environmental Precautions**

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**Methods for Containment and Clean Up**

Wear self-contained breathing apparatus and protective suit. Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment.

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7. HANDLING AND STORAGE****Handling**

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical

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assistance. Handle product only in closed system or provide appropriate exhaust ventilation.

**Storage**

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

**Specific Use(s)**

Use in laboratories

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters**

Component	China	Taiwan	Thailand	Hong Kong
Bromoselenobenzene	-	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>	-

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Bromoselenobenzene	TWA: 0.2 mg/m <sup>3</sup>	(Vacated) TWA: 0.2 mg/m <sup>3</sup>	IDLH: 1 mg/m <sup>3</sup> TWA: 0.2 mg/m <sup>3</sup>	STEL: 0.3 mg/m <sup>3</sup> 15 min TWA: 0.1 mg/m <sup>3</sup> 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

**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 MDHS70 General methods for sampling airborne gases and vapours MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

**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 (European standard - EN 166)

**Hand Protection** Protective gloves

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

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 of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

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

**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** 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** Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Dark brown	
<b>Physical State</b>	Solid	
<b>Odor</b>	Stench	
<b>Odor Threshold</b>	No data available	
<b>pH</b>	No information available	
<b>Melting Point/Range</b>	60 - 62 °C / 140 - 143.6 °F	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	107 - 108 °C / 224.6 - 226.4 °F	@ 15 mmHg
<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>	No data available	
<b>Bulk Density</b>	No data available	
<b>Water Solubility</b>	Insoluble	
<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	
<b>Molecular Formula</b>	C6 H5 Br Se	
<b>Molecular Weight</b>	235.97	

## SECTION 10. STABILITY AND REACTIVITY

**Stability** Moisture sensitive.

**Hazardous Reactions** No information available.  
**Hazardous Polymerization** No information available.

**Conditions to Avoid** Excess heat. Incompatible products. Exposure to moist air or water.

**Phenylselenyl bromide**

**Materials to avoid** Strong oxidizing agents. Strong bases.

**Hazardous Decomposition Products** Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen halides. Hydrogen chloride gas.

### SECTION 11. TOXICOLOGICAL INFORMATION

**Product Information**

**(a) acute toxicity;**

**(b) skin corrosion/irritation;** Category 1 B

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

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

<b>Respiratory</b>	No data available
<b>Skin</b>	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;** Category 2

**Target Organs** Liver.

**(j) aspiration hazard;** Not applicable  
Solid

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Symptoms / effects, both acute and delayed** Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

**Persistence and Degradability**

<b>Persistence</b>	Insoluble in water, Persistence is unlikely, based on information available.
<b>Degradation in sewage treatment plant</b>	Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

**Phenylselenenyl bromide**

**Bioaccumulative Potential** May have some potential to bioaccumulate

**Mobility in soil** Spillage unlikely to penetrate soil The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces Is not likely mobile in the environment due its low water solubility Will likely be mobile in the environment due to its volatility

**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** Should not be released into the environment. 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** Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms. Do not let this chemical enter the environment.

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

**UN-No** UN2928  
**Proper Shipping Name** Toxic solid, corrosive, organic, n.o.s.  
**Technical Shipping Name** Bromoselenobenzene  
**Hazard Class** 6.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

**IMDG/IMO**

**UN-No** UN2928  
**Proper Shipping Name** Toxic solid, corrosive, organic, n.o.s.  
**Technical Shipping Name** Bromoselenobenzene  
**Hazard Class** 6.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

**IATA**

**UN-No** UN2928  
**Proper Shipping Name** Toxic solid, corrosive, organic, n.o.s.  
**Technical Shipping Name** Bromoselenobenzene  
**Hazard Class** 6.1  
**Subsidiary Hazard Class** 8  
**Packing Group** II

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

**SECTION 15. REGULATORY INFORMATION****International Inventories**

## Phenylselenenyl bromide

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
Bromoselenobenzene	-	X	X	-	252-238-1	-	-	X	-		-	-

## National Regulations

## SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Creation Date** 07-Jun-2010  
**Revision Date** 22-Apr-2024  
**Revision Summary** New emergency telephone response service provider.

## Training Advice

Chemical incident response training.

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.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

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



**Disclaimer**

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**End of Safety Data Sheet**