

## SAFETY DATA SHEET

Creation Date 22-October-2010

Revision Date 26-March-2024

Revision Number 3

### 1. Identification

**Product Name** Zinc selenide

**Cat No. :** 41958

**CAS-No** 1315-09-9

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.

**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

##### **Importer/Distributor**

Fisher Scientific  
112 Colonnade Road,  
Ottawa, ON K2E 7L6,  
Canada  
Tel: 1-800-234-7437

##### **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

### 2. Hazard(s) identification

#### Classification

##### **WHMIS 2015 Classification**

Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

<b>Acute oral toxicity</b>	Category 3
<b>Specific target organ toxicity - (repeated exposure)</b>	Category 2
Target Organs - Liver, Skin, Central nervous system (CNS).	

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Toxic if swallowed

May cause damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Do not breathe dust/fumes/gas/mist/vapours/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product

**Response**

IF SWALLOWED: Immediately call a POISON CENTER/doctor  
Get medical advice/attention if you feel unwell  
Rinse mouth

**Storage**

Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Hazards**

Very toxic to aquatic life with long lasting effects

### 3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Zinc selenide (ZnSe)	1315-09-9	99.99

### 4. First-aid measures

<b>Eye Contact</b>	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
<b>Inhalation</b>	Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required.
<b>Ingestion</b>	Call a physician immediately. Clean mouth with water.
<b>Most important symptoms/effects</b>	No information available.
<b>Notes to Physician</b>	Treat symptomatically

### 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Chemical foam.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	No information available
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	No information available
<b>Explosion Limits</b>	

<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

**Specific Hazards Arising from the Chemical**

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

**Hazardous Combustion Products**

None known.

**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.

**NFPA**

**Health**  
3

**Flammability**  
0

**Instability**  
0

**Physical hazards**  
N/A

**6. Accidental release measures****Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required.

**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. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage.

**Methods for Containment and Clean Up** Avoid dust formation. Sweep up and shovel into suitable containers for disposal.

**7. Handling and storage****Handling**

Do not breathe dust. Do not get in eyes, on skin, or on clothing. 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. Keep under nitrogen. Incompatible Materials. Strong oxidizing agents. Strong acids.

**8. Exposure controls / personal protection****Exposure Guidelines**

Component	Alberta	British Columbia	Ontario TWA/EV	Quebec	ACGIH TLV	OSHA PEL	NIOSH
Zinc selenide (ZnSe)	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.2 mg/m <sup>3</sup>	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>

**Legend**

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH - National Institute for Occupational Safety and Health

**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**

Goggles

**Hand Protection**

Protective gloves

Glove material	Breakthrough time	Glove thickness	Glove comments
Natural rubber	See manufacturers	-	Splash protection only
Nitrile rubber	recommendations		
Neoprene			
PVC			

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) 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. gloves with care avoiding skin contamination.

#### Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

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

**Recommended Filter type:** Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

#### 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.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

## 9. Physical and chemical properties

Physical State	Powder Solid
Appearance	Yellow
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	> 1100 °C / 2012 °F
Boiling Point/Range	No information available
Flash Point	No information available
Evaporation Rate	Not applicable
Flammability (solid,gas)	No information available
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	Not applicable
Specific Gravity	No information available
Solubility	insoluble
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	Not applicable
Molecular Formula	Se Zn
Molecular Weight	144.34

## 10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Moisture sensitive. Air sensitive.

<b>Conditions to Avoid</b>	Exposure to air. Incompatible products. Exposure to moist air or water.
<b>Incompatible Materials</b>	Strong oxidizing agents, Strong acids
<b>Hazardous Decomposition Products</b>	None under normal use conditions
<b>Hazardous Polymerization</b>	No information available.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Component Information

<b>Toxicologically Synergistic Products</b>	No information available
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### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Irritation</b>	No information available
<b>Sensitization</b>	No information available
<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Zinc selenide (ZnSe)	1315-09-9	Not listed	Not listed	Not listed	Not listed	Not listed

<b>Mutagenic Effects</b>	No information available
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<b>Reproductive Effects</b>	No information available.
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<b>Developmental Effects</b>	No information available.
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<b>Teratogenicity</b>	No information available.
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<b>STOT - single exposure</b>	None known
<b>STOT - repeated exposure</b>	Liver Skin Central nervous system (CNS)

<b>Aspiration hazard</b>	No information available
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<b>Symptoms / effects, both acute and delayed</b>	No information available
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<b>Endocrine Disruptor Information</b>	No information available
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<b>Other Adverse Effects</b>	The toxicological properties have not been fully investigated.
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## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

<b>Persistence and Degradability</b>	Insoluble in water
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<b>Bioaccumulation/ Accumulation</b>	No information available.
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<b>Mobility</b>	Is not likely mobile in the environment due its low water solubility.
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## 13. Disposal considerations

**Waste Disposal Methods**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT**

UN-No UN3283  
 Proper Shipping Name SELENIUM COMPOUND, SOLID, N.O.S.  
 Technical Name Zinc selenide (ZnSe)  
 Hazard Class 6.1  
 Packing Group II

**TDG**

UN-No UN3283  
 Proper Shipping Name SELENIUM COMPOUND, SOLID, N.O.S.  
 Hazard Class 6.1  
 Packing Group II

**IATA**

UN-No UN3283  
 Proper Shipping Name SELENIUM COMPOUND, SOLID, N.O.S.  
 Hazard Class 6.1  
 Packing Group II

**IMDG/IMO**

UN-No UN3283  
 Proper Shipping Name SELENIUM COMPOUND, SOLID, N.O.S.  
 Hazard Class 6.1  
 Packing Group II

## 15. Regulatory information

**International Inventories**

Component	CAS-No	DSL	NDSL	TSCA	TSCA Inventory notification - Active-Inactive	EINECS	ELINCS	NLP
Zinc selenide (ZnSe)	1315-09-9	-	X	X	ACTIVE	215-259-7	-	-

Component	CAS-No	IECSC	KECL	ENCS	ISHL	TCSI	AICS	NZIoC	PICCS
Zinc selenide (ZnSe)	1315-09-9	X	KE-35579	X	X	X	-	X	-

**Legend:**

X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

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

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

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

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**Canada**

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

Component	Canada - National Pollutant Release Inventory (NPRI)	Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances	Canada's Chemicals Management Plan (CEPA)
Zinc selenide (ZnSe)	Part 1, Group A Substance Part 1, Group B Substance		

## Other International Regulations

## Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Zinc selenide (ZnSe)	-	Use restricted. See item 75. (see link for restriction details)	-

## REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS-No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Zinc selenide (ZnSe)	1315-09-9	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS-No	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)
Zinc selenide (ZnSe)	1315-09-9	Not applicable	Not applicable	Not applicable	Annex I - Y23 Annex I - Y25

## 16. Other information

## Prepared By

Product Safety Department  
Email: chem.techinfo@thermofisher.com  
www.thermofisher.com

## Creation Date

22-October-2010

## Revision Date

26-March-2024

## Print Date

26-March-2024

## Revision Summary

New emergency telephone response service provider.

## 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 SDS**