



ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2015/830

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

### 1.1 Product identifier

Product Name	Bismuth selenide crystal
Synonyms	Bismuth selenide, Bismuth(III) selenide
Chemical Name	Dibismuth triselenide
Chemical Formula	Bi <sub>2</sub> Se <sub>3</sub>
Product code	M2206A*
CAS No.	12068-69-8
EC No.	235-104-7
REACH Registration No.	Not applicable.

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified Use(s)	PC21 Laboratory chemicals
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### 1.3 Details of the supplier of the safety data sheet

Company Identification	Ossila Limited
Address of Supplier	Solpro Business Park Windsor Street Sheffield
Postal code	S4 7WB, UK
Telephone:	+441142999180
E-mail	info@ossila.com
Office hours	08:00 - 17:00

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP)	Acute Tox. 3: Toxic if swallowed. Acute Tox. 3: Toxic if inhaled. STOT RE 2: May cause damage to organs through prolonged or repeated exposure. Aquatic Chronic 1: Very toxic to aquatic life with long lasting effects.
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### 2.2 Label elements

Product Name	According to Regulation (EC) No. 1272/2008 (CLP) Bismuth selenide crystal
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Hazard Pictogram(s)



Signal Word(s)

Danger

Hazard Statement(s)

H301 + H331: Toxic if swallowed or if inhaled.  
H373: May cause damage to organs through prolonged or repeated exposure.  
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

P260: Do not breathe dust/fume/gas/mist/vapours/spray.  
P301 + P310 + P330: IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.  
P304 + P340 + P311: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.

### 2.3 Other hazards

None known.

### 2.4 Additional Information

Not applicable.




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


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**3.1 Substances**

Hazardous ingredient(s)	CAS No.	EC No.	%W/W	Hazard Statement(s)
Dibismuth triselenide	12068-69-8	235-104-7	<100	Acute Tox. 3 H301 Acute Tox. 3 H331 STOT RE 2 H373 Aquatic Acute 1 H400 Aquatic Chronic 1 H410

**3.2 Mixtures**

Not applicable.

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**SECTION 4: FIRST AID MEASURES**


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**4.1 Description of first aid measures**

Inhalation	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.
Skin Contact	Rinse skin with water. If skin irritation occurs, get medical advice/attention.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion	Immediately call a POISON CENTER or doctor/ physician. Rinse mouth.

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

SECTION 11: Most important symptoms and effects, both acute and delayed

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

Treat symptomatically.

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**SECTION 5: FIREFIGHTING MEASURES**


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**5.1 Extinguishing media**

Suitable Extinguishing media	As appropriate for surrounding fire.
Unsuitable extinguishing media	As appropriate for surrounding fire.

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

May decompose in a fire, giving off toxic and irritant vapours.

**5.3 Advice for firefighters**

Fire fighters should wear complete protective clothing including self-contained breathing apparatus.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**


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**6.1 Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Wear protective clothing as per section 8.

**6.2 Environmental precautions**

Avoid release to the environment.

**6.3 Methods and material for containment and cleaning up**

Sweep up spilled substance but avoid making dust. Use vacuum equipment for collecting spilt materials, where practicable. Dispose of contents in accordance with local, state or national legislation.

**6.4 Reference to other sections**

See Also Section 8, 13.

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**SECTION 7: HANDLING AND STORAGE**


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**7.1 Precautions for safe handling**

Avoid breathing dust/aerosols. Use only in a well-ventilated area. Wear protective clothing as per section 8.

**7.2 Conditions for safe storage, including any incompatibilities**

Storage temperature	Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Storage life	Ambient.
Incompatible materials	Stable under normal conditions.
<b>7.3 Specific end use(s)</b>	None known.

Not known. See Section: 1.2.

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**


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**8.1 Control parameters****8.1.1 Occupational Exposure Limits**

No occupational exposure limit assigned.



## 8.2 Exposure controls

8.2.1. Appropriate engineering controls Ensure adequate ventilation. A washing facility/water for eye and skin cleaning purposes should be present.

8.2.2. Personal protection equipment

Eye Protection

Wear eye protection with side protection (EN166).



Skin protection

Wear protective clothing and gloves: Impervious gloves (EN 374).



Respiratory protection

A suitable mask with filter type A (EN14387 or EN405) may be appropriate.



Thermal hazards

None known.



8.2.3. Environmental Exposure Controls Avoid release to the environment.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basic physical and chemical properties

Appearance	Solid: crystal Colour: Dull grey
Odour	Not known.
Odour threshold	Not known.
pH	Not known.
Melting point/freezing point	710 °C
Initial boiling point and boiling range	Not known.
Flash Point	Not known.
Evaporation rate	Not known.
Flammability (solid, gas)	Not known.
Upper/lower flammability or explosive limits	Not known.
Vapour pressure	Not known.
Vapour density	Not known.
Density (g/ml)	Not known.
Relative density	Not known.
Solubility(ies)	Solubility (Water): Not known. Solubility (Other): Not known.
Partition coefficient: n-octanol/water	Not known.
Auto-ignition temperature	Not known.
Decomposition Temperature (°C)	Not known.
Viscosity	Not known.
Explosive properties	Not known.
Oxidising properties	Not known.

### 9.2 Other information

None.

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## SECTION 10: STABILITY AND REACTIVITY

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### 10.1 Reactivity

None anticipated.

### 10.2 Chemical Stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Not known.

### 10.4 Conditions to avoid

Not known.

### 10.5 Incompatible materials

Not known.

**10.6 Hazardous decomposition products**

No hazardous decomposition products known.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects**

Acute toxicity - Ingestion	Toxic if swallowed.
Acute toxicity - Skin Contact	Not classified.
Acute toxicity - Inhalation	Toxic if inhaled.
Skin corrosion/irritation	Not classified.
Serious eye damage/irritation	Not classified.
Skin sensitization data	Not classified.
Respiratory sensitization data	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Lactation	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Not classified.

**11.2 Other information**

Not known.

**SECTION 12: ECOLOGICAL INFORMATION****12.1 Toxicity**

	Very toxic to aquatic life with long lasting effects.
Toxicity - Aquatic invertebrates	Not known.
Toxicity - Fish	Not known.
Toxicity - Algae	Not known.
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.

**12.2 Persistence and Degradation**

Not known.

**12.3 Bioaccumulative potential**

Not known.

**12.4 Mobility in soil**

Not known.

**12.5 Results of PBT and vPvB assessment**

Not known.

**12.6 Other adverse effects**

Not known.

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

Dispose of contents in accordance with local, state or national legislation. Recycle only completely emptied packaging. Normal disposal is via incineration operated by an accredited disposal contractor. Send to a licensed recycler, reclaimer or incinerator.

**13.2 Additional Information**

Disposal should be in accordance with local, state or national legislation.

**SECTION 14: TRANSPORT INFORMATION****14.1 UN number**

UN No. 3283

**14.2 UN proper shipping name**

UN proper shipping name Selenium compound, solid, n.o.s.

**14.3 Transport hazard class(es)**

ADR/RID 6.1

IMDG 6.1

IATA 6.1

**14.4 Packing group**

Packing group III

**14.5 Environmental hazards**

Environmental hazards Classified as a Marine Pollutant.

**14.6 Special precautions for user**

Special precautions for user Not known.



#### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not known.

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#### SECTION 15: REGULATORY INFORMATION

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

European Regulations - Authorisations and/or Restrictions On Use

Candidate List of Substances of Very High Concern for Authorisation Not listed

REACH: ANNEX XIV list of substances subject to authorisation Not listed

REACH: Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles Not listed

Community Rolling Action Plan (CoRAP) Regulation (EC) N° 850/2004 of the European Parliament and of the Council on persistent organic pollutants Not listed

Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer Not listed

Regulation (EU) N° 649/2012 of the European Parliament and of the Council concerning the export and import of hazardous chemicals Not listed

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##### National regulations

Other Not known.

##### 15.2 Chemical Safety Assessment

A REACH chemical safety assessment has not been carried out.

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#### SECTION 16: OTHER INFORMATION

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The following sections contain revisions or new statements:

##### LEGEND

###### Acronyms

ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
 ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road  
 CAS : Chemical Abstracts Service  
 CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures  
 DNEL : Derived No Effect Level  
 EC : European Community  
 EINECS : European Inventory of Existing Commercial Chemical Substances  
 IATA : International Air Transport Association  
 IBC : Intermediate Bulk Container  
 ICAO : International Civil Aviation Organization  
 IMDG : International Maritime Dangerous Goods  
 LTEL : Long term exposure limit  
 PBT : Persistent, Bioaccumulative and Toxic  
 PNEC : Predicted No Effect Concentration  
 REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals  
 RID : Regulations concerning the International Carriage of Dangerous Goods by Rail  
 STEL : Short term exposure limit  
 STOT : Specific Target Organ Toxicity  
 UN : United Nations  
 vPvB : very Persistent and very Bioaccumulative

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