

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

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


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**1.1 Product identifier**

|                        |                                                   |
|------------------------|---------------------------------------------------|
| Product Name           | Germanium Diselenide Crystal                      |
| Synonyms               | Germanium (IV) selenide, Bis(selanylidene)germane |
| Chemical Name          | Germanium Diselenide                              |
| Chemical Formula       | GeSe <sub>2</sub>                                 |
| CAS No.                | 12065-11-1                                        |
| EC No.                 | Not Applicable                                    |
| 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 |
|-------------------|---------------------------|

**1.3 Details of the supplier of the safety data sheet**

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

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**SECTION 2: HAZARDS IDENTIFICATION**


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**2.1 Classification of the substance or mixture**

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

**2.2 Label elements**

|              |                                                                                  |
|--------------|----------------------------------------------------------------------------------|
| Product Name | According to Regulation (EC) No. 1272/2008 (CLP)<br>Germanium Diselenide Crystal |
|--------------|----------------------------------------------------------------------------------|

Hazard Pictogram(s)



GHS06

GHS08

GHS09

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)

 P261: Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P273: Avoid release to the environment.  
 P301 + P310 + P330: IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.  
 P304 + P340 + P311: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.  
 P314: Get medical advice/attention if you feel unwell.

**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)                                                                |
|-------------------------|------------|----------------|------|------------------------------------------------------------------------------------|
| Germanium Diselenide    | 12065-11-1 | Not Applicable | ≤100 | Acute Tox. 3 H301<br>Acute Tox. 3 H331<br>STOT RE 2 H373<br>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. If not breathing give artificial respiration. Call a POISON CENTER or doctor/physician.                     |
| Skin Contact | Wash with soap and flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a POISON CENTER or doctor/physician.          |
| Eye Contact  | Flush with copious amounts of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor/physician. |
| 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/fume/gas/mist/vapours/spray. Use only in a well-ventilated area. Wear protective clothing as per section 8. Wash hands thoroughly after handling.

**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.                                                   |
|                        | None known.                                                                       |

**7.3 Specific end use(s)**

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**

UK – EH40 Workplace Exposure Limits (WEL).

| Occupational Exposure Limits                             |            |                      |                                     |            |                           |      |
|----------------------------------------------------------|------------|----------------------|-------------------------------------|------------|---------------------------|------|
| SUBSTANCE.                                               | CAS No.    | LTTEL (8 hr TWA ppm) | LTTEL (8 hr TWA mg/m <sup>3</sup> ) | STEL (ppm) | STEL (mg/m <sup>3</sup> ) | Note |
| Selenium and compounds, except hydrogen selenide (as Se) | 12065-11-1 |                      | 0.1                                 |            |                           |      |

Region: EU, United Kingdom  
 Source: EU Occupational Exposure Limits, UK Workplace Exposure Limits EH40/2005 (Third edition, published 2018)

**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.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**
**9.1 Information on basic physical and chemical properties**

|                                              |                                                                  |
|----------------------------------------------|------------------------------------------------------------------|
| Appearance                                   | Solid: Single Crystal.<br>Colour: Orange.                        |
| Odour                                        | Not known.                                                       |
| Odour threshold                              | Not known.                                                       |
| pH                                           | Not known.                                                       |
| Melting point/freezing point                 | 707 °C(lit.)                                                     |
| 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.<br>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.

**SECTION 10: STABILITY AND REACTIVITY**
**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     | No data available. |
| Acute toxicity - Skin Contact  | No data available. |
| Acute toxicity - Inhalation    | No data available. |
| Skin corrosion/irritation      | No data available. |
| Serious eye damage/irritation  | No data available. |
| Skin sensitization data        | No data available. |
| Respiratory sensitization data | No data available. |
| Germ cell mutagenicity         | No data available. |
| Carcinogenicity                | No data available. |
| Reproductive toxicity          | No data available. |
| Lactation                      | No data available. |
| STOT - single exposure         | No data available. |
| STOT - repeated exposure       | No data available. |
| Aspiration hazard              | No data available. |

**11.2 Other information**

Not known.

**SECTION 12: ECOLOGICAL INFORMATION**

**12.1 Toxicity**

|                                    |                    |
|------------------------------------|--------------------|
| Toxicity - Aquatic invertebrates   | No data available. |
| Toxicity - Fish                    | Not known.         |
| Toxicity - Algae                   | Not known.         |
| Toxicity - Sediment Compartment    | Not known.         |
| Toxicity - Terrestrial Compartment | Not known.         |

**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. (Germanium diselenide)

**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 Not 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) Not listed

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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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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