SAFETY DATA SHEET

Revision Date: 18/08/2022
Revision #: 2

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: Germanium Diselenide Powder
Synonyms: Germanium (IV) selenide, Bis(selanylidene)germane
Chemical Name: Germanium Diselenide
Chemical Formula: GeSe2
CAS No.: 12065-11-1
EC No.: Not Applicable
Index No.: 034-002-00-8
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
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 Acute 1: Very toxic to aquatic life
Aquatic Chronic 1: Very toxic to aquatic life with long lasting effects

2.2 Label elements

Product Name: Germanium Diselenide Powder
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
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long lasting effects
Precautionary Statement(s):
P261: Avoid breathing dust/lume/gas/mist/vapours/spray.
P273: Avoid release to the environment.
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.
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Hazardous ingredient(s)</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>% W/W</th>
<th>Hazard Statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germanium Diselenide</td>
<td>12065-11-1</td>
<td>Not Applicable</td>
<td>≤100</td>
<td>Acute Tox. 3 H301</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 3 H331</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>STOT RE 2 H373</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1 H400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1 H410</td>
</tr>
</tbody>
</table>

3.2 Mixtures

Not applicable.

SECTION 4: FIRST AID MEASURES

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: 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.

SECTION 5: FIREFIGHTING MEASURES

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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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 spill 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.

SECTION 7: HANDLING AND STORAGE

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. Ambient.

Storage life: Stable under normal conditions.

Incompatible materials: None known.

7.3 Specific end use(s)

Not known. See Section: 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

UK – EH40 Workplace Exposure Limits (WEL).
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Occupational Exposure Limits

<table>
<thead>
<tr>
<th>SUBSTANCE.</th>
<th>CAS No.</th>
<th>LTEL (8 hr TWA ppm)</th>
<th>LTEL (8 hr TWA mg/m³)</th>
<th>STEL (ppm)</th>
<th>STEL (mg/m³)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selenium and compounds, except hydrogen selenide (as Se)</td>
<td>12065-11-1</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Region | Source
---|---
EU | EU Occupational Exposure Limits
United Kingdom | 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid: Powder Colour: Orange</td>
</tr>
<tr>
<td>Odour</td>
<td>Not known.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not known.</td>
</tr>
<tr>
<td>pH</td>
<td>Not known.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>707 °C(lit.)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not known.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not known.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not known.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not known.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not known.</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not known.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not known.</td>
</tr>
<tr>
<td>Density (g/ml)</td>
<td>Not known.</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not known.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Not known.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not known.</td>
</tr>
<tr>
<td>Decomposition Temperature (°C)</td>
<td>Not known.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not known.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not known.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not known.</td>
</tr>
</tbody>
</table>

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**: Toxic if swallowed. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2).
- **Acute toxicity - Skin Contact**: No data available.
- **Acute toxicity - Inhalation**: Toxic if inhaled. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2).
- **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**: Causes damage to organs through prolonged or repeated exposure. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2).
- **Aspiration hazard**: No data available.

11.2 Other information
Not known.

**SECTION 12: ECOLOGICAL INFORMATION**

12.1 Toxicity
- **Toxicity - Aquatic invertebrates**: Not known.
- **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, reclamer 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
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.

SECTION 15: REGULATORY INFORMATION

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
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) on persistent organic pollutants
Not listed
Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer
Not listed
Not listed
National regulations
Other Not known.

15.2 Chemical Safety Assessment
A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

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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