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

1.1 Product identifier
Product Name: Tungsten Ditelluride Powder
Synonyms: Tungsten (IV) telluride, Tungsten telluride
Chemical Name: Tungsten ditelluride
Chemical Formula: WTe2
CAS No.: 12067-76-4
EC No.: 235-086-0
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
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 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: Tungsten Ditelluride 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/fume/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>Tungsten ditelluride</td>
<td>12067-76-4</td>
<td>235-086-0</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
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

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
Firefighters 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
Store in a well-ventilated place. Keep container tightly closed. Store locked up. Ambient.

Storage life
Product is air, heat, and moisture sensitive. Handle and store under inert gas.

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).
### Occupational Exposure Limits

<table>
<thead>
<tr>
<th>SUBSTANCE: Tellurium and compounds, except hydrogen telluride (as Te)</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>
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</thead>
<tbody>
<tr>
<td>12067-76-4</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Region**
- EU

**Source**
- EU Occupational Exposure Limits
- United Kingdom 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: Powder
  - Colour: Metallic black

- **Odour**
  - Not known.

- **Odour threshold**
  - Not known.

- **pH**
  - Not known.

- **Melting point/freezing point**
  - 1020 °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.

### 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
No data available.
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, 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. 3284

14.2 UN proper shipping name
UN proper shipping name Tellurium compound, n.o.s. (Tungsten ditelluride)

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: 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) No 1005/2009 on substances that deplete the ozone layer: 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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