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

1.1 Product identifier
Product Name: SWCNT-COOH
Synonyms: Hydroxyl-functionalised single-walled carbon nanotubes SWNT-COOH, SWCNT-COOH

Chemical Name: Single-walled carbon nanotubes – carboxylic acid functionalised
Chemical Formula: C (\(-\)COOH)
CAS No.: 7440-44-0
EC No.: 231-153-3
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)
Eye Irrit. 2A: Causes serious eye irritation
STOT SE 3: May cause respiratory irritation

2.2 Label elements
According to Regulation (EC) No. 1272/2008 (CLP)
Product Name: SWCNT-COOH
Hazard Pictogram(s):
GHS07

Signal Word(s): Warning
Hazard Statement(s):
H319: Causes serious eye irritation
H335: May cause respiratory irritation
Precautionary Statement(s):
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312: Call a POISON CENTER or doctor if you feel unwell.
P337 + P313: If eye irritation persists: Get medical advice/attention.

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>%W/W</th>
<th>Hazard Statement(s)</th>
</tr>
</thead>
</table>
| Single-walled carbon nanotubes – carboxylic acid functionalised | 7440-44-0 | >90 | Eye Irrit. 2A H319
| | | | STOT SE 3 H335 |
| Carbon Nanotubes (other) | 7440-44-0 | <10 | Eye Irrit. 2A H319
| | | | STOT SE 3 H335 |

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. Get medical advice/attention if you feel unwell.

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.

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 vapours/mist/dust/aerosols. 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: 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).

<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>Graphite inhalable dust</td>
<td>7440-44-0</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphite respirable</td>
<td>7440-44-0</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


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

ossila.com
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: Fibrous Powder.</td>
</tr>
<tr>
<td>Colour</td>
<td>Black</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>Not known</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>Solubility (Water)</td>
<td>Limited</td>
</tr>
<tr>
<td>Solubility (Other)</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  
  No data available.

- Acute toxicity - Skin Contact  
  No data available.
SAFETY DATA SHEET  
Revision Date: 11/10/2021  
Revision #: 2

### 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**: No data available.
- **Toxicity - Algae**: No data available.
- **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

IATA/IMO/RID/ADR
Not classified as hazardous for transport.

### 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) N° 1005/2009 on substances that deplete the ozone layer**: Not listed

- **National regulations**
  - 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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