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

1.1 Product identifier
Product Name: SWCNT-COOH

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified Use(s): PC21 Laboratory chemicals, Research and development use only

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

1.4 Emergency telephone number
Emergency Phone #: +44 (0) 20 3885 0382 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Regulation (EC) No. 1272/2008 (CLP) Eye Irrit. 2: Causes serious eye irritation
STOT SE 3: May cause respiratory irritation

2.2 Label elements
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
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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>Single-walled carbon nanotubes – carboxylic acid functionalised Carbon Nanotubes (other)</td>
<td>N/A</td>
<td>Not available.</td>
<td>&gt;90% &lt;5%</td>
<td>Eye Irrit. 2 H319 STOT SE 3 H335</td>
</tr>
</tbody>
</table>

3.2 Mixtures
Not applicable.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General Advice
First aiders should ensure they have taken adequate steps to protect themselves from exposure (see Section 8 for recommended personal protection equipment). Show this safety data sheet to the doctor in attendance.

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.

Ingestion
Rinse out mouth with water. Get medical advice/attention if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Most important symptoms and effects, both acute and delayed, are included on labelling (Section 2.2) and in Section 11.

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

Carbon oxides

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

Follow safe handling advice and personal protective equipment recommendations (as per section 8). Provide adequate ventilation.

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

Sweep up spilled substance - 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

Advice on safe handling
Avoid inhalation, ingestion, and contact with skin and eyes. Use only in a well-ventilated area. Wear protective clothing as per section 8.

Hygiene measures
Keep away from food and drink. Wash hands after handling, before breaks, and at the end of workday.

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)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

ossila.com
SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
8.1.1 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>Graphite</td>
<td>N/A</td>
<td>10</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Region EU, Source: 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 and/or exhaust. 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 tested and approved under appropriate government standards such as EN166 (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use and proper glove removal techniques should be used. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls.

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>Physical State</th>
<th>Colour</th>
<th>Odour</th>
<th>Odour threshold</th>
<th>Melting point/freeze point</th>
<th>Initial boiling point and boiling range</th>
<th>Flammability</th>
<th>Lower and upper explosion limit</th>
<th>Flash Point</th>
<th>Auto-ignition temperature (°C)</th>
<th>Decomposition temperature (°C)</th>
<th>pH</th>
<th>Kinematic viscosity</th>
<th>Solubility(i)es</th>
<th>Solubility(Other)</th>
<th>Partition coefficient: n-octanol/water (log value)</th>
<th>Vapour pressure</th>
<th>Density</th>
<th>Relative density</th>
<th>Relative vapour density</th>
<th>Particle characteristics</th>
<th>Other information</th>
</tr>
</thead>
</table>

9.2 Other information

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
None anticipated.

10.2 Chemical Stability
Stable under recommended storage 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

In the event of fire: see Section 5

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.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties
None known.

11.2.2 Information on other hazards
None 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
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties
Not known.

12.7 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
Not listed
Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer
Not listed
Not known.
National regulations
Other
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

Disclaimers
Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Ossila Limited gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Ossila Limited accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.