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

1.1 Product identifier

Product Name: MWCNT-OH
Synonyms: Hydroxyl-functionalised multi-walled carbon nanotubes, MWNT-OH
Chemical Name: Multi-walled carbon nanotubes – hydroxyl functionalised
Chemical Formula: C (-OH)
CAS No.: Not available.
EC No.: Not available.
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: MWCNT-OH
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>
| Multi-walled carbon nanotubes – hydroxyl functionalised | N/A | >99.9% | Eye Irrit. 2A H319
| Carbon Nanotubes (other) | 308068-56-6 | <0.1% | 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.

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

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 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.

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

Region | Source | EU Occupational Exposure Limits | United Kingdom | UK Workplace Exposure Limits EH40/2005 (Third edition, published 2018)
<table>
<thead>
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</thead>
<tbody>
<tr>
<td>EU</td>
<td>EU</td>
<td>EU Occupational Exposure Limits</td>
<td>United Kingdom</td>
<td>UK Workplace Exposure Limits EH40/2005 (Third edition, published 2018)</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
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: Fibrous Powder.
Colour  Black.

Odour  Not known.
Odour threshold  Not known.

pH  Not known.
Melting point/freezing point  Not known.

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 (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.
SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
- Aquatic invertebrates: No data available.
- Fish: No data available.
- Algae: No data available.
- Sediment Compartment: Not classified.
- 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, reclamer 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
    - Not listed
  - Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer
    - Not listed
    - Not listed
  - Other: Not known.

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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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