

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) &amp; 2015/830

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

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**1.1 Product identifier**

Product Name	Graphene monolayer film on sapphire
Synonyms	Graphene, monolayer graphene film
Chemical Name	Graphene
Chemical Formula	CxHy
CAS No.	1034343-98-0
EC No.	n/a
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
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**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

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**SECTION 2: HAZARDS IDENTIFICATION**

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**2.1 Classification of the substance or mixture**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**2.2 Label elements**

The product does not need to be labelled in accordance with EC directives or respective national laws.

**2.3 Other hazards**

None known.

**2.4 Additional Information**

Not applicable.

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

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**3.1 Substances**

No components need to be disclosed according to the applicable regulations.

**3.2 Mixtures**

Not applicable.

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**SECTION 4: FIRST AID MEASURES**

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**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.

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**SECTION 5: FIREFIGHTING MEASURES**

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**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.

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**SECTION 6: ACCIDENTAL RELEASE MEASURES**

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**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 dust/aerosols. Use only in a well-ventilated area. Wear protective clothing as per section 8.

**7.2 Conditions for safe storage, including any incompatibilities**

Storage temperature: Store in a well-ventilated place. Keep container tightly closed.  
Storage life: Ambient.  
Incompatible materials: Stable under normal conditions.  
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

No Occupational Exposure Limit assigned.

**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

Normally no personal respiratory protection is necessary.



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 transparent film on rigid transparent clear substrate  
Colour: Clear  
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(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.
<b>9.2 Other information</b>	None.

**SECTION 10: STABILITY AND REACTIVITY**

<b>10.1 Reactivity</b>	None anticipated.
<b>10.2 Chemical Stability</b>	Stable under normal conditions.
<b>10.3 Possibility of hazardous reactions</b>	Not known.
<b>10.4 Conditions to avoid</b>	Not known.
<b>10.5 Incompatible materials</b>	Not known.
<b>10.6 Hazardous decomposition products</b>	No hazardous decomposition products known.

**SECTION 11: TOXICOLOGICAL INFORMATION**

<b>11.1 Information on toxicological effects</b>	
Acute toxicity - Ingestion	Not classified.
Acute toxicity - Skin Contact	Not classified.
Acute toxicity - Inhalation	Not classified.
Skin corrosion/irritation	Not classified.
Serious eye damage/irritation	Not classified.
Skin sensitization data	Not classified.
Respiratory sensitization data	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not classified.
Reproductive toxicity	Not classified.
Lactation	Not classified.
STOT - single exposure	Not classified.
STOT - repeated exposure	Not classified.
Aspiration hazard	Not classified.
<b>11.2 Other information</b>	Not known.

**SECTION 12: ECOLOGICAL INFORMATION**

<b>12.1 Toxicity</b>	
Toxicity - Aquatic invertebrates	Not known.
Toxicity - Fish	Not known.
Toxicity - Algae	Not known.
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.
<b>12.2 Persistence and Degradation</b>	Not known.
<b>12.3 Bioaccumulative potential</b>	Not known.
<b>12.4 Mobility in soil</b>	Not known.
<b>12.5 Results of PBT and vPvB assessment</b>	Not known.
<b>12.6 Other adverse effects</b>	Not known.

**SECTION 13: DISPOSAL CONSIDERATIONS**

<b>13.1 Waste treatment methods</b>	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.
<b>13.2 Additional Information</b>	Disposal should be in accordance with local, state or national legislation.

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**SECTION 14: TRANSPORT INFORMATION**


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IATA/IMO/RID/ADR	Not classified as hazardous for transport.
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**SECTION 15: REGULATORY INFORMATION**


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**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
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REACH: ANNEX XIV list of substances subject to authorisation	Not listed
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REACH: Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	Not listed
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Community Rolling Action Plan (CoRAP) Regulation (EC) N° 850/2004 of the European Parliament and of the Council on persistent organic pollutants	Not listed
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Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer	Not listed
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Regulation (EU) N° 649/2012 of the European Parliament and of the Council concerning the export and import of hazardous chemicals	Not listed
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Other	Not known.
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**15.2 Chemical Safety Assessment**

**National regulations**

Other	Not known.
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**15.2 Chemical Safety Assessment**

A REACH chemical safety assessment has not been carried out.

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**SECTION 16: OTHER INFORMATION**


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The following sections contain revisions or new statements:

**LEGEND**

Acronyms	<p>ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</p> <p>ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road</p> <p>CAS : Chemical Abstracts Service</p> <p>CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures</p> <p>DNEL : Derived No Effect Level</p> <p>EC : European Community</p> <p>EINECS : European Inventory of Existing Commercial Chemical Substances</p> <p>IATA : International Air Transport Association</p> <p>IBC : Intermediate Bulk Container</p> <p>ICAO : International Civil Aviation Organization</p> <p>IMDG : International Maritime Dangerous Goods</p> <p>LTEL : Long term exposure limit</p> <p>PBT : Persistent, Bioaccumulative and Toxic</p> <p>PNEC : Predicted No Effect Concentration</p> <p>REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals</p> <p>RID : Regulations concerning the International Carriage of Dangerous Goods by Rail</p> <p>STEL : Short term exposure limit</p> <p>STOT : Specific Target Organ Toxicity</p> <p>UN : United Nations</p> <p>vPvB : very Persistent and very Bioaccumulative</p>
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