

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

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

 Product Name PEDOT:Complex (HTL Solar 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, 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)

Other Regions	Emergency Phone Number (CHEMTREC)
Europe, Middle East, Africa	+44 20 3885 0382
North America	+1 703 527 3887
Central America	+52 55 8526 4930
South America	+55 11 4349 1359
Asia, India, and Oceania	+65 3163 8374

**SECTION 2: HAZARDS IDENTIFICATION**
**2.1 Classification of the substance or mixture**

 Regulation (EC) No. 1272/2008 (CLP) Flam. Liq. 2: Highly flammable liquid and vapour  
 Skin Irrit. 2: Causes skin irritation  
 Repr. 2: Suspected of damaging fertility or the unborn child  
 STOT SE 3: May cause drowsiness or dizziness  
 STOT RE 2: May cause damage to organs  
 Asp. Haz. 1: May be fatal if swallowed and enters airways  
 Aquatic Chronic 2: Toxic to aquatic life with long lasting effects

**2.2 Label elements**

 According to Regulation (EC) No. 1272/2008 (CLP)  
 Product Name PEDOT:Complex (HTL Solar 3)

Hazard Pictogram(s)



GHS02 GHS07 GHS08 GHS09

Signal Word(s) Danger

 Hazard Statement(s) H225 Highly flammable liquid and vapour.  
 H304 May be fatal if swallowed and enters airways.  
 H315 Causes skin irritation.  
 H336 May cause drowsiness or dizziness.  
 H361d Suspected of damaging the unborn child.  
 H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.  
 H411 Toxic to aquatic life with long lasting effects.

 Precautionary Statement(s) P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
 P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
 P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
 P370 + P378: In case of fire: Use dry powder or dry sand to extinguish.

P403 + P235: Store in a well-ventilated place. Keep cool.

**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.

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


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**3.1 Substances**

This product is a mixture.

**3.2 Mixtures**

Hazardous ingredient(s)	CAS No.	EC No.	%W/W	Hazard Statement(s)
Toluene Index Number: 601-021-00-3	108-88-3	203-625-9	>= 70 - <90	Flam. Liq. 2 H225 Skin Irrit. 2 H315 Repr. 2 H361 STOT SE 3 H336 STOT RE 2 H373 Asp. Tox. 1 H304 Aquatic Chronic 3 H412
Cyclohexane Index Number: 601-017-00-1	110-82-7	203-806-2	>=2.5 - <5	Flam. Liq. 2 H225 Skin Irrit. 2 H315 STOT SE 3 H336 Asp. Tox. 1 H304 Aquatic Acute 1 H400 Aquatic Chronic 1 H410 M-Factor (acute aquatic toxicity): 1
Naphtha (petroleum), hydrotreated light Index Number: 649-328-00-1	64742-49-0	265-151-9	>=1 - <2.5	Flam. Liq. 2 H225 Skin Irrit. 2 H315 STOT SE 3 H336 Asp. Tox. 1 H304 Aquatic Chronic 1 H411

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**SECTION 4: FIRST AID MEASURES**


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**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. 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. Do NOT induce vomiting.

**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.

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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**

 Carbon oxides  
 Sulfur oxides

**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**

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**

Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

**6.4 Reference to other sections**

See Also Section 8, 13.

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**SECTION 7: HANDLING AND STORAGE**


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**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

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Reseal containers that have been opened to prevent evaporation of solvent and potential formation of a non re-dispersible solid. Keep upright to prevent leakage. 3-5 °C

Storage life

Stable for 9 months from date of production in sealed original containers. Product is sensitive to frost and must not be stored at temperatures below 0 °C.

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

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**


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**8.1 Control parameters**

8.1.1 Occupational Exposure Limits

UK – EH40 Workplace Exposure Limits (WEL).

Occupational Exposure Limits						
SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
Toluene	108-88-3	50	192	100	384	
Cyclohexane	110-82-7	200	700	300	1,050	

Region	Source
EU	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 respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls

Thermal hazards

None known.

8.2.3. Environmental Exposure Controls

Avoid release to the environment.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**


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**9.1 Information on basic physical and chemical properties**

Physical State	Liquid.
Colour	Dark Blue/Black.
Odour	Not known.
Odour threshold	Not known.
Melting point/freezing point	Not known.
Initial boiling point and boiling range	110 °C (1,013 hPa)
Flammability	Not known.
Lower and upper explosion limit	Not known.
Flash Point	-18 °C(1,013 hPa)
Auto-ignition temperature (°C)	Not known.
Decomposition temperature (°C)	Not known.

pH	Not known.
Kinematic viscosity	Not known.
Solubility(ies)	Solubility (Water): Not known. Solubility (Other): Not known.
Partition coefficient: n-octanol/water (log value)	Not known.
Vapour pressure	Not known.
Density	Not known.
Relative density	Not known.
Relative vapour density	Not known.
Particle characteristics	Not known.

**9.2 Other information**

None.

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**SECTION 10: STABILITY AND REACTIVITY**


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**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

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**SECTION 11: TOXICOLOGICAL INFORMATION**


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**11.1 Information on toxicological effects**

Acute toxicity - Ingestion	Not classified based on available information. Toluene - LD50 (Rat): >5,000 mg/kg Cyclohexane - LD50 (Rat): >5,000 mk/kg Naphtha - LD50 (Rat): >5,840 mg/kg
Acute toxicity - Skin Contact	Not classified based on available information. Toluene - LD50 (Rabbit): >5,000 mk/kg Cyclohexane - LD50 (Rabbit): >2,000 mk/kg Naphtha - LD50 (Rabbit): >2,800-3,100 mg/kg
Acute toxicity - Inhalation	Not classified based on available information. Toluene - LD50 (Rat): >28.1 mg/l Cyclohexane - LD50 (Rat): >19.07 mg/l Naphtha - LD50 (Rat): >25.2 mg/l
Skin corrosion/irritation	Causes skin irritation.
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	Suspected of damaging the unborn child.
Lactation	Not classified.
STOT - single exposure	May cause drowsiness or dizziness.
STOT - repeated exposure	May cause damage to organs (Central nervous system) through prolonged or repeated exposure.
Aspiration hazard	May be fatal if swallowed and enters airways.

**11.2 Information on other hazards**
**11.2.1 Endocrine disrupting properties**

None known.

**11.2.2. Information on other hazards**

None known.

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**SECTION 12: ECOLOGICAL INFORMATION**


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**12.1 Toxicity**

Very toxic to aquatic life with long lasting effects.	
Toxicity - Aquatic invertebrates	Toluene – EC50 (Ceriodaphnia dubia (water flea)): 3.78 mg/l Cyclohexane – EC50 (Daphnia magna (Water flea)): 0.9 mg/l Naphtha – EL50 (Daphnia magna (Water flea)): 3 mg/l
Toxicity - Fish	Toluene – LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l Cyclohexane – LC50 (Pimephales promelas (fathead minnow)): 4.53 mg/l Naphtha – LL50 (Oncorhynchus mykiss (rainbow trout)): 12 mg/l –
Toxicity - Algae	Toluene – NOEC (Skeletonema costatum (marine diatom)): 10 mg/l

	Cyclohexane – NOEC (Pseudokirchneriella subcapitata (green algae)): 0.94 mg/l
	Naphtha – EL50 (Pseudokirchneriella subcapitata (green algae)): 30 - 100 mg/l
Toxicity - Sediment Compartment	Not known.
Toxicity - Terrestrial Compartment	Not known.
<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>	
	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.
<b>12.6 Endocrine disrupting properties</b>	
	Not known.
<b>12.7 Other adverse effects</b>	
	Not known.

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**SECTION 13: DISPOSAL CONSIDERATIONS**


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<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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<b>14.1 UN number</b>	
UN No.	1993
<b>14.2 UN proper shipping name</b>	
UN proper shipping name	Flammable liquid, n.o.s. (toluene dispersion)
<b>14.3 Transport hazard class(es)</b>	
ADR/RID	3
IMDG	3
IATA	3
<b>14.4 Packing group</b>	
Packing group	II
<b>14.5 Environmental hazards</b>	
Environmental hazards	Not classified as a Marine Pollutant.
<b>14.6 Special precautions for user</b>	
Special precautions for user	Not known.
<b>14.7 Maritime transport in bulk according to IMO instruments</b>	
	Not known.

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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

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) Regulation (EC) N° 850/2004 of the European Parliament and of the Council on persistent organic pollutants Not listed

Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer Not listed

Regulation (EU) N° 649/2012 of the European Parliament and of the Council concerning the export and import of hazardous chemicals Not listed

National regulations

Other Not known.

**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

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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