

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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

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. 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.

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
 Sulfur 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

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.

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

Storage life

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. 5 - 10 °C

Incompatible materials

7.3 Specific end use(s)

None known.

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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 ³)	STEL (ppm)	STEL (mg/m ³)	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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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.

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	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.

SECTION 12: ECOLOGICAL INFORMATION

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.
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

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

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) 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.

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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