MATERIAL SAFETY DATA SHEET

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

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product Details

Product Name: BDTTDSFSn
Synonyms: BDT-SF-Sn, (4,8-Bis(5-(2-ethylhexylthio)-4-fluorothiophen-2-yl)benzo[1,2-b:4,5-b']dithiophene-2,6-diyl)bis(trimethylstannane)
Chemical Name: 2,6-bis(trimethyltin)-4,8-bis(5-(2-ethylhexylthio)-4-fluorothiophen-2-yl)benzo[1,2-b:4,5-b']dithiophene
Chemical Formula: C₄₀H₅₆F₂S₆Sn₂
Product Code: B511
CAS No.: 2226464-70-4
EC No.: n/a
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals

1.3. Supplier details

Company Identification: Ossila Limited
Address of Supplier: Solpro Business Park
Windsor Street, Sheffield
Postal Code: S4 7WB, UK
Telephone: 0114 2999 180
Email address: info@ossila.com

2. Hazards identification

2.1. Classification of the substance or mixture

Hazard statements according to Regulation (EC) 1272/2008
Acute Toxicity, Inhalation (Category 2), H300
Acute Toxicity, Dermal (Category 1), H310
Acute Toxicity, Oral (Category 2), H330
Acute Aquatic Hazard (Category 1), H400
Chronic Aquatic Hazard (Category 1), H410

2.2. Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Signal Word: Danger
Hazard statement(s):
H300+H330: Fatal by inhalation and if swallowed.
H310    Fatal in contact with skin.
H400    Very toxic to aquatic life.
H410    Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P260    Do not breathe dust/fume/gas/mist/vapours/spray.
P262    Do not get in eyes, on skin, or on clothing.
P271    Use only outdoors or in a well-ventilated area.
P273    Avoid release to the environment.

Supplemental information
None.

2.3. Other hazards
None.

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>2,6-bis(trimethylin)-4,8-bis(5-(2-ethylhexylthio)-4-fluorothiophen-2-yl)benzo[1,2-b:4,5-b']dithiophene</td>
<td>2226464-70-4</td>
<td>n/a</td>
<td>&gt;=99%</td>
<td>Acute Tox. 2 (H300+H330); Acute Tox. 1 (H310); Aquatic Acute 1 (H400); Aquatic Chronic 1 (H410)</td>
</tr>
</tbody>
</table>

4. First aid measures

4.1. Description of first aid measures

Inhalation    Remove person to fresh air. If not breathing, give person artificial respiration.
Skin contact  Wash with soap and water.
Eye contact   Flush with copious amounts of water as a precaution.
Ingestion     Rinse out mouth with water.

4.2. Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in section 11.

4.3. Indication of any immediate medical attention and special treatment needed
No data available.

5. Fire fighting

5.1. Extinguishing media
Suitable extinguishing media: As appropriate for surrounding fire.

5.2. Special hazards arising from the substance of 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.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Wear personal protective equipment (section 8). Avoid dust formation. Ensure room is well ventilated.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Containment and cleaning
Contain and clean up spill if safe to do so using an electrically protected vacuum cleaner or by wet-brushing. Dispose of dry waste in closed container for proper disposal according to local regulations.

7. Handling and storage

7.1. Precautions for safe handling
Avoid formation of dust and aerosols. Provide exhaust ventilation in places where dust is formed.

7.2. Conditions for safe storage, including any incompatibilities
Store in a cool, dry and well-ventilated place inside of a tightly sealed container. Reseal containers that have been opened and keep upright to prevent leakage.

<table>
<thead>
<tr>
<th>Storage temperature</th>
<th>Ambient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage life</td>
<td>Stable under normal conditions</td>
</tr>
</tbody>
</table>

7.3. Specific end uses
Use in laboratories.

8. Exposure controls / Personal protection

8.1. Control parameters

8.1.1 Occupational Exposure Limits
Contains no substances with occupational exposure limit values.

8.2. Exposure controls

8.2.1 Engineering measures
Handle in accordance with good industrial engineering/laboratory practices for hygiene and safety. Ensure eyewash stations and safety showers are close to the laboratory workstation. Ensure good general ventilation is present when handling the product.

8.2.2 Personal protective equipment

<table>
<thead>
<tr>
<th>Protection</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Protection</td>
<td>Wear safety glasses with side-shields conforming to appropriate government standards such as NOISH (US) or EN166 (EU).</td>
</tr>
<tr>
<td>Skin Protection</td>
<td>Wear protective clothing and gloves. Use gloves that satisfy the specifications of your national standards (e.g. EN 374). Wash hands after handling. Wash contaminated clothing after use.</td>
</tr>
</tbody>
</table>
Respirators: A suitable dust mask or respirator with filter type N95 (US) or type P (EN143 or EN405) may be appropriate, or those approved under appropriate government standards such as NIOSH (US) or CEN (EU), as a backup to engineering controls.

8.2.3 Environmental Exposure Controls
Avoid release to the environment.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Light yellow powder/crystals</td>
</tr>
<tr>
<td>Odour</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other safety information
No data available.

10. Stability and reactivity

10.1 Reactivity
No data available.

10.2. Chemical stability
Stable under normal temperatures and pressures under recommended storage conditions.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
Strong oxidising agents.
10.6. Hazardous decomposition products
No known hazardous decomposition products.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity
Fatal by inhalation, if swallowed or in contact with skin.

Skin corrosion/irritation
No data available.

Serious eye damage/irritation
No data available.

Respiratory sensitisation
No data available.

Skin sensitisation
No data available.

Germ cell mutagenicity
No data available.

Carcinogenicity
No data available.

Reproductive toxicity
No data available.

STOT - single exposure
No data available.

STOT - repeated exposure
No data available.

Aspiration hazard
No data available.

Routes of exposure
Eye contact, ingestion, inhalation, skin contact.

Signs and Symptoms of Exposure
No data available.

11.2 Other information
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

12. Ecological information

12.1. Toxicity
Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.
12.5. Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6. Other adverse effects
No data available.

13. Disposal

13.1. Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations and directives on waste and hazardous waste. Offer surplus material to a licensed professional waste disposal professional.

Contaminated packaging
Dispose of as unused product.

14. Transport

14.1 UN number
3146

14.2 UN proper shipping name
Organotin compound, solid, n.o.s.

14.3 Transport hazard class(es)

<table>
<thead>
<tr>
<th>ADR/RID Class</th>
<th>6.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMDG Class</td>
<td>6.1</td>
</tr>
<tr>
<td>IATA</td>
<td>6.1</td>
</tr>
</tbody>
</table>

14.4 Packing group
III

14.5 Environmental hazards
Classified as a Marine Pollutant.

14.6 Special precautions for user
No special precautions required.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
No information available.

15. Regulatory information
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006, the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available.

15.2 Chemical safety assessment

No chemical safety report/assessment was carried out for this product.

16. Other information

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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