

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 tBu-4PACz  
Synonyms (4-(3,6-Di-tert-butyl-9H-carbazol-9-yl)butyl)phosphonic acid  
Chemical Name (4-(3,6-Di-tert-butyl-9H-carbazol-9-yl)butyl)phosphonic acid  
Chemical Formula C<sub>24</sub>H<sub>34</sub>NO<sub>3</sub>P  
CAS No. 3023627-39-3  
EC No. Not available.  
Index 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, 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) Skin Irrit. 2: Causes skin irritation  
Eye Irrit. 2: Causes serious eye irritation

### 2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)  
Product Name tBu-4PACz

Hazard Pictogram(s)



GHS07

Signal Word(s)

Warning

Hazard Statement(s)

H315: Causes skin irritation  
H319: Causes serious eye irritation

Precautionary Statement(s)

P302 + P352: IF ON SKIN: Wash with plenty of water.  
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313: If eye irritation persists: Get medical advice/attention.

### 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**

| Hazardous ingredient(s)                                      | CAS No.      | EC No.         | %W/W  | Hazard Statement(s)                     |
|--------------------------------------------------------------|--------------|----------------|-------|-----------------------------------------|
| (4-(3,6-Di-tert-butyl-9H-carbazol-9-yl)butyl)phosphonic acid | 3023627-39-3 | Not available. | ≤ 100 | Skin Irrit. 2 H315<br>Eye Irrit. 2 H319 |

**3.2 Mixtures**

Not applicable.

**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. 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**

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

Nitrogen oxides (NOx)

Oxides of phosphorus

**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**

Sweep up spilled substance - 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**

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**

Store in a well-ventilated place. Keep container tightly closed.

Storage temperature

3-5 °C

Storage life

Product is air and light sensitive. Handle and store under inert gas. Store in dark.

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**

No Occupational Exposure Limit assigned.

**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 particle respirator type N99 (US) or type P2 (EN 143) 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**

Solid: Powder.

**Colour**

White.

**Odour**

Not known.

**Odour threshold**

Not known.

**Melting point/freezing point**

Not known.

**Initial boiling point and boiling range**

Not known.

**Flammability**

Not known.

**Lower and upper explosion limit**

Not known.

**Flash Point**

Not known.

**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**

No data available.

**Acute toxicity - Skin Contact**

No data available.

**Acute toxicity - Inhalation**

No data available.

**Skin corrosion/irritation**

No data available.

|                                |                    |
|--------------------------------|--------------------|
| Serious eye damage/irritation  | No data available. |
| Skin sensitization data        | No data available. |
| Respiratory sensitization data | No data available. |
| Germ cell mutagenicity         | No data available. |
| Carcinogenicity                | No data available. |
| Reproductive toxicity          | No data available. |
| Lactation                      | No data available. |
| STOT - single exposure         | No data available. |
| STOT - repeated exposure       | No data available. |
| Aspiration hazard              | No data available. |

**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**

|                                    |                    |
|------------------------------------|--------------------|
| Toxicity - Aquatic invertebrates   | No data available. |
| Toxicity - Fish                    | No data available. |
| Toxicity - Algae                   | No data available. |
| Toxicity - Sediment Compartment    | Not classified.    |
| Toxicity - 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**

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.

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**SECTION 13: DISPOSAL CONSIDERATIONS**


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**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, reclaimor or incinerator.

**13.2 Additional Information**

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

REACH: ANNEX XIV list of substances subject to authorisation

REACH: Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Community Rolling Action Plan (CoRAP)

Regulation (EC) N° 850/2004 of the European Parliament and of the Council on persistent organic pollutants

Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer

Not listed

Not listed

Not listed

Not listed

Not listed

Not listed

Not listed

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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