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

1.1. Product Details

Product Code : M431
Name : 4,4’-Bis(2,2-diphenylvinyl)biphenyl
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.
CAS No. : 142289-08-5

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

Identified uses : Laboratory chemicals

1.3. Supplier details

Supplied by : Ossila Limited
Kroto Innovation Centre
Broad Lane, Sheffield
S3 7HQ, UK
Telephone : 0114 213 2770
Email address : info@ossila.com

2. Hazards identification

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

Signal word : Caution

The substance has not been fully tested. As precautionary measure consider to be an irritant to eyes, skin and respiratory system.

2.3. Other hazards

None.

3. Composition/Information on ingredients

3.1. Substances

Synonyms : dPVBi
4,4’-bis(2,2-diphenylvinyl)-1,1’-diphenyl;
4,4’-bis(2,2-diphenylethenyl)-1,1’-biphenyl

Formula : C_{40}H_{30}
Molecular weight : 510.67 g/mol  
CAS No. : 142289-08-5

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

4. First aid measures

4.1. Description of first aid measures

After Inhalation
If inhaled, remove to fresh air. If not breathing give artificial respiration. Call a physician.

After skin contact
In case of skin contact, wash with soap and flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

After eye contact
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

After Ingestion
If swallowed, wash out mouth with water. Call a physician.

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: Dry chemical, alcohol-resistant foam, carbon dioxide or water spray. Consult with local fire authorities before attempting large scale fire fighting operations.

5.2. Special hazards arising from the substance of mixture

Hazardous combustion products: Carbon oxides.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus if necessary. During a fire, irritating and highly toxic gases and vapours may be generated by thermal decomposition.

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. Remove all sources of ignition.

6.2. Environmental precautions

Do not let product enter drains.

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 contact with skin, eyes and clothing. Avoid formation of dust, mist, aerosol or vapour. Provide exhaust ventilation in places where dust is formed. Keep away from sources of ignition and avoid the build up of electrostatic charge.

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.

7.3. Specific end uses
Use in laboratories.

8. Exposure controls / Personal protection

8.1. Control parameters

Components with workplace control parameters
Contains no substances with occupational exposure limit values.

Biological occupational exposure limits
This product does not contain any hazardous materials with biological limits.

8.2. Exposure controls

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.

Personal protective equipment

Eyes: Wear safety glasses with side-shields conforming to appropriate government standards such as NOISH (US) or EN166 (EU).
Skin: Handle with appropriate gloves and use proper glove removal technique to avoid skin contact. Dispose of gloves in accordance with applicable laws. Wash and dry hands.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Clothing: Wear complete suit protecting against chemicals; the type of equipment should be appropriate for the concentration and amount of dangerous substance used.
Respirators: Use type N95 (US) or type P1 (EN 143) dust masks if warranted. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

General hygiene measures
Wash thoroughly after handling. Wash contaminated clothing before reuse.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Pale 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>207 °C</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>627 °C at 760 mmHg</td>
</tr>
</tbody>
</table>

Material Safety Data Sheet for M431-dPVBi
Revision date: 09/05/2016
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>338.6 °C</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>1.125 g/cm³</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Chloroform, tetrahydrofuran</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

Excess exposure to heat and light.

10.5. Incompatible materials

Strong oxidising agents, strong acids and strong bases

10.6. Hazardous decomposition products

No known hazardous decomposition products.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity
No data available.

Skin corrosion/irritation
May cause skin irritation.

Serious eye damage/eye irritation
May cause eye irritation.

Respiratory or skin sensitization
May be harmful by inhalation.

Germ cell mutagenicity
No data available.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available.

Specific target organ toxicity - single exposure
No data available.

Specific target organ toxicity - 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.

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

12. Ecological information

12.1. Toxicity
No data available.

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

Non-hazardous for road, air and sea transport.

IATA: Not regulated as a hazardous material.
IMO: Not regulated as a hazardous material.
RID/ADR: Not regulated as a hazardous material.
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

Warranty

This material is for research and development use only. The information provided here is based upon the available information from material suppliers but not warranted as complete and is provided only as a guide. Ossila Limited shall not be held responsible for any damage resulting from use or handling of this product.