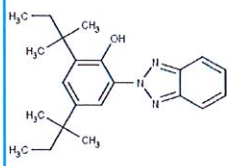
2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol

Substance identity

EC / List no.: 247-384-8

CAS no.: 25973-55-1

Mol. formula: C22H29N3O



Hazard classification & labelling

Warning! According to the classification provided by companies to ECHA in **REACH registrations** this substance may cause damage to organs through prolonged or repeated exposure and may cause long lasting harmful effects to aquatic life.

Properties of concern

PBT

Regulatory activities

Substance of very high concern (SVHC) and included in the candidate list for authorisation.

About this substance

This substance is manufactured and/or imported in the European Economic Area in 100 - 1 000 tonnes per year.

This substance is used by consumers, in articles, by professional workers (widespread uses), in formulation or re-packing and at industrial sites.

Consumer Uses

ECHA has no public registered data indicating whether or in which chemical products the substance might be used. ECHA has no public registered data on the routes by which this substance is most likely to be released to the environment.

Article service life

ECHA has no public registered data on the routes by which this substance is most likely to be released to the environment. ECHA has no public registered data indicating whether or into which articles the substance might have been processed.

Widespread uses by professional workers

ECHA has no public registered data indicating whether or in which chemical products the substance might be used. ECHA has no public registered data on the types of manufacture using this substance. ECHA has no public registered data on the routes by which this substance is most likely to be released to the environment.

Formulation or re-packing

ECHA has no public registered data indicating whether or in which chemical products the substance might be used. ECHA has no public registered data on the routes by which this substance is most likely to be released to the environment.

Uses at industrial sites

ECHA has no public registered data indicating whether or in which chemical products the substance might be used. ECHA has no public registered data on the types of manufacture using this substance. ECHA has no public registered data on the routes by which this substance is most likely to be released to the environment.

Manufacture

ECHA has no public registered data on the routes by which this substance is most likely to be released to the environment.

The InfoCard summarises the non-confidential data on substances as held in the databases of the European Chemicals Agency (ECHA), including data provided by third parties. The InfoCard is automatically generated. Information requirements under different legislative frameworks may therefore not be up-to-date or complete. Substance manufacturers and importers are responsible for consulting official publications. This InfoCard is covered by the ECHA Legal Disclaimer.

ECHA EUROPEAN CHEMICALS AGENCY

about INFOCARD - Last updated: 05/12/2017

Regulatory activities

Registration, Evaluation, Authorisation & Restriction of Chemicals (REACH)

Registration

Pre-registration: Substance pre-registered under REACH.

Registration: This substance has 4 active registrations under REACH, 1 Joint Submission(s) and 0 Individual Submission(s).

Evaluation

Dossier Evaluation:

Substance Evaluation:

Authorisation

Candidate List: Substance of very high concern (SVHC) and included in the candidate list for authorisation.

Annex XIV (Authorisation List):

Restriction

Annex XVII (Restriction List):

Classification Labelling & Packaging (CLP)

Harmonised C&L:

Notification: Classification & Labelling has been notified by industry to ECHA for this substance.

Biocidal Products Regulation (BPR)

Active Substance:

Biocidal Products:

Prior Informed Consent (PIC)

Annex I:

Annex V:

About this substance

General

This substance is manufactured and/or imported in the European Economic Area in 100 - 1 000 tonnes per year.

This substance is used by consumers, in articles, by professional workers (widespread uses), in formulation or re-packing and at industrial sites.

Consumer Uses

This substance is used in the following products: coating products.

Other release to the environment of this substance is likely to occur from: indoor use and outdoor use resulting in inclusion into or onto a materials (e.g. binding agent in paints and coatings or adhesives).

Article service life

ECHA has no public registered data on the use of this substance in activities or processes at the workplace.

Other release to the environment of this substance is likely to occur from: outdoor use in long-life materials with low release rate (e.g. metal, wooden and plastic construction and building materials) and indoor use in long-life materials with low release rate (e.g. flooring, furniture, toys, construction materials, curtains, foot-wear, leather products, paper and cardboard products, electronic equipment).

This substance can be found in products with material based on: plastic (e.g. food packaging and storage, toys, mobile phones).

Widespread uses by professional workers

This substance is used in the following products: coating products, adhesives and sealants and polymers.

This substance is used in the following areas: formulation of mixtures and/or re-packaging. This substance is used for the manufacture of: plastic products.

This substance is used in the following activities or processes at workplace: transfer of chemicals, the low energy manipulation of substances bound in materials or articles, roller or brushing applications, non-industrial spraying, high energy work-up of substances bound in materials or articles (e.g. hot rolling/forming, grinding, mechanical cutting, drilling or sanding), mixing in open batch processes and treatment of articles by dipping and pouring.

Other release to the environment of this substance is likely to occur from: indoor use and outdoor use resulting in inclusion into or onto a materials (e.g. binding agent in paints and coatings or adhesives).

Formulation or re-packing

This substance is used in the following products: polymers, adhesives and sealants and coating products.

This substance is used in the following activities or processes at workplace: transfer of chemicals, mixing in open batch processes, batch processing in synthesis or formulation with opportunity for exposure, closed processes with no likelihood of exposure, closed, continuous processes with occasional controlled exposure, closed batch processing in synthesis or formulation, laboratory work and transfer of substance into small containers.

Release to the environment of this substance can occur from industrial use: formulation of mixtures and formulation in materials.

Uses at industrial sites

This substance is used in the following products: polymers, coating products and adhesives and sealants.

This substance is used in the following areas: formulation of mixtures and/or re-packaging. This substance is used for the manufacture of: plastic products.

This substance is used in the following activities or processes at workplace: the low energy manipulation of substances bound in materials or articles, high energy work-up of substances bound in materials or articles (e.g. hot rolling/forming, grinding, mechanical cutting, drilling or sanding), transfer of chemicals, production of mixtures or articles by tabletting, compression, extrusion or pelletisation, transfer of substance into small containers, treatment of articles by dipping and pouring, roller or brushing applications and batch processing in synthesis or formulation with opportunity for exposure.

Release to the environment of this substance can occur from industrial use: in the production of articles.

Manufacture

ECHA has no public registered data on the use of this substance in activities or processes at the workplace.

ECHA has no public registered data on the routes by which this substance is most likely to be released to the environment.

Precautionary Measures and safe use

ECHA has no data from registration dossiers on the precautionary measures for using this substance. Guidance on the safe use of the substance provided by manufacturers and importers of this substance.

Registrants/suppliers

Active

- Addivant UK Ltd, Tenax Road Trafford Park M17 1WT Manchester United Kingdom
- BASF SE, Carl-Bosch-Str. 38 67056 Ludwigshafen am Rhein Rheinland-Pfalz Germany
- Hunan Chemical BV, Entrada 203 1114 AA Amsterdam-Duivendrecht Netherlands
- PPG Central (UK) Ltd - OR3, TBN 83916 Needham Road IP14 2AD Stowmarket Suffolk United Kingdom

Inactive

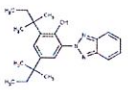
The Brief Profile summarizes the non-confidential data on substances as it is held in the databases of the European Chemicals Agency (ECHA), including data provided by third parties. The Brief Profile is automatically generated; note that it does not currently distinguish between harmonised classification and minimum classification; information requirements under different legislative frameworks may therefore not be fully up to date or complete. For accuracy reasons, substance manufacturers and imports have the responsibility to consult official sources, e.g. the electronic edition of the Official Journal of the European Union.
This Brief Profile is covered by the ECHA Legal Notice.

2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol

Brief Profile - Last updated: 05/12/2017

Substance Description

Substance identity



EC / List name: 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol

IUPAC name: 2-(2H-1,2,3-benzotriazol-2-yl)-4,6-bis(2-methylbutan-2-yl)phenol

Other names

Chemical Abstract Service Registry number. Preferred CAS number displayed first.

EC / List no.: 247-384-8

CAS no.: 25973-55-1

Index number:

Molecular formula: C22H29N3O

SMILES: CCC(C)(C)c1cc(c(O)c(c1)C(C)(C)CC)-n1nc2ccccc2n1

InChI: InChI=1S/C22H29N3O/c1-7-21(3,4)15-13-16(22(5,6)8-2)20(26)19(14-15)25-23-17-11-9-10-12-18(17)24-25/h9-14,26H,7-8H2,1-6H3
AuxInfo=1/0/N:19,24,20,21,25,26,18,23,14,15,13,16,5,6,7,4,12,11,3,1,17,22,8,10,9,2/E:(3,4)(5,6)(9,10)(11,12)(17,18)(23,24)/rA:26COCCCCCNNNCCCCCCCCCCCCCCCC/rB:s1;d+1;s1;d-4;s3;s5d-6;;s3s8;s9;d-10;d-8s11;s12;d-13;s14;s11d-15;s7;s17;s18;s17;s17;s4;s22;s23;s22;s22;/rC:3.9665,-3.1733,0;3.9665,-1.6333,0;5.3198,-3.9665,0;2.6598,-3.9665,0;2.6598,-5.5065,0;5.3198,-5.5065,0;3.9665,-6.2531,0;6.8598,-1.68,0;6.6731,-3.1733,0;8.0731,-3.7798,0;9.0998,-2.7067,0;8.3065,-1.3067,0;9.1463,0,0;10.5931,0,0;11.3863,-1.4,0;10.6398,-2.6598,0;3.9665,-7.7931,0;5.3198,-8.5865,0;6.6265,-7.7931,0;2.6598,-8.5865,0;3.9665,-9.3331,0;1.3067,-3.22,0;0,-4.0131,0;0,-5.5065,0;1.3067,-1.68,0;0,-2.4733,0;

Type of substance: Mono constituent substance

Origin: Organic

Registered compositions: 4

Of which contain: 0 impurities relevant for classification

0 additives relevant for classification

Substance Listed: EINECS (European INventory of Existing Commercial chemical Substances) List

Hazard classification & labelling

Warning! According to the classification provided by companies to ECHA in **REACH registrations** this substance may cause damage to organs through prolonged or repeated exposure and may cause long lasting harmful effects to aquatic life.

Breakdown of all 1557 C&L notifications submitted to ECHA

Aquatic Chronic 4	H413
STOT RE 2	H373
Not Classified	
Aquatic Chronic 2	H411
Aquatic Chronic 3	H412
STOT RE 1	H372
Acute Tox. 4	H302
Eye Irrit. 2	H319
Acute Tox. 4	H332
Skin Irrit. 2	H315
Acute Tox. 4	H312
Resp. Sens. 1	H334
STOT SE 3	H335

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

✔ Harmonised Classification
REACH registration dossiers notifications
CLP notifications

Properties of concern

PBT

Other names

IUPAC names

- -
- 2-(2-hydroxy-3;5-di-tert-amyl-phenyl) 2H-benzotriazole
- 2-(2H-1,2,3-benzotriazol-2-yl)-4,6-bis(2-methylbuta n-2- yl)phenol
- 2-(2H-1,2,3-benzotriazol-2-yl)-4,6-bis(2-methylbutan-2-yl)phenol
- 2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylpropyl)phenol
- 2-(2H-Benzotriazol-2-yl)-4,6-di-tert-pentylphenol
- 2-(2H-Benzotriazol-2-yl)-4,6-ditertpentylphenol
- 2-(2'-Hydroxy-3',5'-di-tert-amylphenyl) benzotriazole
- 2-(3,5-Di-tert-amyl-2-hydroxyphenyl)benzotriazole
- 2-(4,7-dihydro-2H-1,2,3-benzotriazol-2-yl)-4,6-bis(2-methylbutan-2-yl)phenol
- 2-(benzotriazol-2-yl)-4,6-bis(2-methylbutan-2-yl)phenol
- PHENOL, 2-(2H-BENZOTRIAZOL-2-YL)-4,6-BIS(1,1-DIMETHYLPROPYL)-
- UV-328

Regulatory processes names

- 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol
- 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)

Trade names

- GSTAB® 328
- UV-328

Other names

- UV-328

Scientific properties

Physical and chemical properties

This section provides physicochemical information compiled from all automatically processable data from REACH registration dossiers that is available to ECHA at the time of generation. The quality and correctness of the information remains the responsibility of the data submitter. The Agency thus cannot guarantee the correctness of the information displayed.

Appearance/physical state / colour

Study results: 1 study submitted, 1 study processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

C Physical state at 20°C and 1013 hPa
Solid (100%) [1]

C Form
Powder (100%) [1]

C Substance type
Organic (100%) [1]

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other				

Data waiving: no waivers

No data available

Melting/freezing point

Study results: 2 studies submitted, 2 studies processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

R Melting / freezing point
80.3 - 86.1 °C [3]

Studies with data				
Key study	2			
Supporting study				
Weight of evidence				
Other				

Data waiving: no waivers

No data available

Boiling point

Study results: 3 studies submitted, 0 studies processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

No automatically processable data submitted

Studies with data				
Key study	1			
Supporting study	2			
Weight of evidence				
Other				

Data waiving: no waivers

No data available

Density

Study results: 1 study submitted, 1 study processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

R Relative density
1.17 @ 20 °C [1]

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other				

Data waiving: no waivers

No data available

Vapour pressure

Study results

3 studies submitted
1 study processed

R **Vapour pressure**
0 - 0.133 Pa @ 20 - 100 °C [2]

Type of Study provided

Studies with data				
Key study	1			
Supporting study	1		1	
Weight of evidence				
Other				

Data waiving

no waivers

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Partition coefficient

Study results

3 studies submitted
2 studies processed

R **Log Pow**
6.5 - 7.25 @ 23 - 25 °C and pH 6.4 [2]

Type of Study provided

Studies with data				
Key study	1			
Supporting study			1	
Weight of evidence			1	
Other				

Data waiving

no waivers

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Water solubility

Study results

1 study submitted
1 study processed

R **Water solubility (mass/vol.)**
1 µg/L @ 20 °C and pH 6.32 - 6.43 [1]

Type of Study provided

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other				

Data waiving

no waivers

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Solubility in organic solvents / fat solubility

⚠ Data not provided by the registrant

Surface tension

Study results

1 study submitted
0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving

Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Flash point

Study results

1 study submitted
0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving

Not feasible	
Sci. unjustified	1
Exposure cons.	
Other	

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Auto flammability

Study results

1 study submitted
0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving

Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Flammability

Study results: 3 studies submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	2
Exposure cons.	
Other	

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Explosiveness

Study results: 1 study submitted, 1 study processed

C Interpretation of results

Non-explosive (100%) [1]

Type of Study provided

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other				

Data waiving: no waivers

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Oxidising

Study results: 1 study submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Oxidation reduction potential

⚠ Data not provided by the registrant

pH

⚠ Data not provided by the registrant

Dissociation constant

Study results: 2 studies submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study			1	
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	1
Exposure cons.	
Other	

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Viscosity

Study results: 1 study submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	1
Sci. unjustified	
Exposure cons.	
Other	

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Environmental fate and pathways

This section provides environmental fate and pathways information compiled from all automatically processable data from REACH registration dossiers that is available to ECHA at the time of generation. The quality and correctness of the information remains the responsibility of the data submitter. The Agency thus cannot guarantee the correctness of the information displayed.

Phototransformation in air

⚠ Data not provided by the registrant

Hydrolysis

Study results: 1 study submitted, 0 studies processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

⚠ Study data not processed for brief profile

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

⚠ No data available

Phototransformation in water

⚠ Data not provided by the registrant

Phototransformation in soil

⚠ Data not provided by the registrant

Biodegradation in water - screening tests

Study results: 1 study submitted, 0 studies processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No automatically processable data submitted

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other				

Data waiving: no waivers

⚠ No data available

Biodegradation in water & sediment - simulation tests

⚠ Data not provided by the registrant

Biodegradation in soil

Study results: 1 study submitted, 0 studies processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

⚠ Study data not processed for brief profile

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

⚠ No data available

Bioaccumulation: aquatic / sediment

Study results: 2 studies submitted, 0 studies processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

⚠ Study data not processed for brief profile

Studies with data				
Key study				
Supporting study				
Weight of evidence	2			
Other				

Data waiving: no waivers

⚠ No data available

Bioaccumulation: terrestrial

⚠ Data not provided by the registrant

Adsorption/desorption

Study results: 1 study submitted, 0 studies processed

Type of Study provided

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No automatically processable data submitted

Studies with data				
Key study			1	
Supporting study				
Weight of evidence				
Other				

Data waiving: no waivers

⚠ No data available

Acute toxicity

Study results	Type of Study provided	Summaries
		0 summaries submitted 0 summaries processed

oral

5 studies submitted
1 study processed

P/R **Results**
LD50 7 750 mg/kg bw (rat) [1]

Studies with data				
Key study	1			
Supporting study	2			
Weight of evidence				
Other	2			

Data waiving
no waivers

inhalation

2 studies submitted
1 study processed

P/R **Results**
LC50 (4 h) 400 mg/m³ air (rat) [1]

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other	1			

Data waiving
no waivers

dermal

1 study submitted
1 study processed

P/R **Results**
LD50 1 100 mg/kg bw (rabbit) [1]

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other				

Data waiving
no waivers

other routes

0 studies submitted
0 studies processed

No data available

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving
no waivers

Irritation / corrosion

Study results	Type of Study provided	Summaries
		0 summaries submitted 0 summaries processed

Study data: skin

2 studies submitted
0 studies processed

Study data not processed for brief profile

Studies with data				
Key study	1			
Supporting study	1			
Weight of evidence				
Other				

Data waiving
no waivers

Study data: eye

3 studies submitted
0 studies processed

Study data not processed for brief profile

Studies with data				
Key study	1			
Supporting study	1			
Weight of evidence				
Other	1			

Data waiving
no waivers

Toxicity to terrestrial plants

Study results: 1 study submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Toxicity to soil microorganisms

Study results: 1 study submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Toxicity to birds

⚠ Data not provided by the registrant

Toxicity to mammals

⚠ Data not provided by the registrant

Toxicological information

This section provides toxicological information compiled from all automatically processable data from REACH registration dossiers that is available to ECHA at the time of generation. The quality and correctness of the information remains the responsibility of the data submitter. The Agency thus cannot guarantee the correctness of the information displayed.

Derived No- or Minimal Effect Level (DN(M)EL)

M/C Summaries: 1 summary submitted, 1 summary processed

The derived no- or minimum effect level (DN(M)EL) is the level of exposure above which a human should not be exposed to a substance. Please note that when more than one summary is provided, DN(M)EL values may refer to constituents of the substance and not to the substance as a whole. More detailed information is available in the dossiers.

Data for WORKERS

INHALATION Exposure	Threshold	Most sensitive study
Long-term:	(DNEL) 700 µg/m³	repeated dose toxicity
Acute /short term:	-	-
Long-term:	-	-
Acute /short term:	-	-

DERMAL Exposure	Threshold	Most sensitive study
Long-term:	(DNEL) 300 µg/kg bw/day	repeated dose toxicity
Acute /short term:	-	-
Long-term:	-	-
Acute /short term:	-	-

EYE Exposure

No hazard identified

Data for the GENERAL POPULATION

INHALATION Exposure	Threshold	Most sensitive study
Long-term:	(DNEL) 170 µg/m³	repeated dose toxicity
Acute /short term:	-	-
Long-term:	-	-
Acute /short term:	-	-

DERMAL Exposure	Threshold	Most sensitive study
Long-term:	(DNEL) 140 µg/kg bw/day	repeated dose toxicity
Acute /short term:	-	-
Long-term:	-	-
Acute /short term:	-	-

ORAL Exposure	Threshold	Most sensitive study
Long-term:	(DNEL) 140 µg/kg bw/day	repeated dose toxicity
Acute /short term:	-	-

EYE Exposure

No hazard identified

Toxicokinetics, metabolism, and distribution

⚠ Data not provided by the registrant

Long-term toxicity to aquatic invertebrates

Study results: 1 study submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Toxicity to aquatic algae and cyanobacteria

Study results: 2 studies submitted, 2 studies processed

P/R **Results**

EC50 (72 h) 16 - 10 000 µg/L [2]
NOEC (72 h) 16 - 100 µg/L [2]
EL50 (72 h) 100 µg/L [1]
NOELR (72 h) 100 µg/L [1]

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence	2			
Other				

Data waiving: no waivers

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Toxicity to aquatic plants other than algae

⚠ Data not provided by the registrant

Toxicity to microorganisms

Study results: 1 study submitted, 1 study processed

P/R **Results**

IC50 (3 h) 100 mg/L [1]

Type of Study provided

Studies with data				
Key study	1			
Supporting study				
Weight of evidence				
Other				

Data waiving: no waivers

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Sediment toxicity

⚠ Data not provided by the registrant

Endocrine disrupter testing in aquatic vertebrates – in vivo

⚠ Data not provided by the registrant

Toxicity to terrestrial macroorganisms except arthropods

Study results: 1 study submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Toxicity to terrestrial arthropods

Study results: 1 study submitted, 0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving	
Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries: 0 summaries submitted, 0 summaries processed

⚠ No data available

Henrys law constant (H)

⚠ Data not provided by the registrant

Distribution modelling

⚠ Data not provided by the registrant

Ecotoxicological information

This section provides ecotoxicological information compiled from all automatically processable data from REACH registration dossiers that is available to ECHA at the time of generation. The quality and correctness of the information remains the responsibility of the data submitter. The Agency thus cannot guarantee the correctness of the information displayed.

Predicted No-Effect Concentration (PNEC)

R Summaries

1 summary submitted
1 summary processed

The Predicted No-Effect Concentration (PNEC) value is the concentration of a substance below which adverse effects in the environment are not expected to occur. Please note that when more than one summary is provided, PNEC values may refer to constituents of the substance and not to the substance as a whole. More detailed information is available in the dossiers.

Hazard for Aquatic Organisms	
Freshwater	10 µg/L (1)
Intermittent releases (freshwater)	100 µg/L (1)
Marine water	1 µg/L (1)
Intermittent releases (marine water)	-
Sewage treatment plant (STP)	1 mg/L (1)
Sediment (freshwater)	451 mg/kg sediment dw (1)
Sediment (marine water)	45.1 mg/kg sediment dw (1)

Hazard for Air	
Air	No hazard identified (1)
Hazard for Terrestrial Organism	
Soil	90 mg/kg soil dw (1)
Hazard for Predators	
Secondary poisoning	13.2 mg/kg food (1)

Short-term toxicity to fish

Study results

2 studies submitted
1 study processed

P/R Results

LC50 (4 days) 100 mg/L [1]
LC50 (72 h) 100 mg/L [1]
LC50 (48 h) 100 mg/L [1]
LC50 (24 h) 100 mg/L [1]
LC0 (4 days) 100 mg/L [1]

Type of Study provided

Studies with data				
Key study	1			
Supporting study	1			
Weight of evidence				
Other				

Data waiving

no waivers

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Long-term toxicity to fish

Study results

1 study submitted
0 studies processed

⚠ No automatically processable data submitted

Type of Study provided

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving

Not feasible	
Sci. unjustified	
Exposure cons.	
Other	1

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Short-term toxicity to aquatic invertebrates

Study results

3 studies submitted
1 study processed

P/R Results

EC50 (48 h) 83 µg/L [1]
EL50 (48 h) 106 µg/L [1]

Type of Study provided

Studies with data				
Key study				
Supporting study	1			
Weight of evidence	2			
Other				

Data waiving

no waivers

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Genetic toxicity

Study results

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

Study data in vitro

3 studies submitted
0 studies processed

Study data: in vitro

No data available

Study data not processed for brief profile

Studies with data				
Key study	3			
Supporting study				
Weight of evidence				
Other				

Data waiving

no waivers

Study data in vivo

6 studies submitted
0 studies processed

Study data: in vivo

Study data not processed for brief profile

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving

no waivers

Carcinogenicity

Data not provided by the registrant

Toxicity to reproduction

Study results

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

Study data reproduction

3 studies submitted
0 studies processed

Study data: reproduction

No data available

Study data not processed for brief profile

Studies with data				
Key study				1
Supporting study				1
Weight of evidence				1
Other				

Data waiving

no waivers

Study data developmental

1 study submitted
0 studies processed

Study data: developmental

Study data not processed for brief profile

Studies with data				
Key study				1
Supporting study				
Weight of evidence				
Other				

Data waiving

no waivers

Study data other studies

0 studies submitted
0 studies processed

Study data: other studies

Study data not processed for brief profile

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving

no waivers

Neurotoxicity

Data not provided by the registrant

Immunotoxicity

Data not provided by the registrant

Sensitisation

Study results

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

Study data: skin

2 studies submitted
0 studies processed

⚠ No data available

⚠ Study data not processed for brief profile

Studies with data				
Key study	1			
Supporting study	1			
Weight of evidence				
Other				

Data waiving

no waivers

Study data: respiratory

0 studies submitted
0 studies processed

⚠ Study data not processed for brief profile

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving

no waivers

Repeated dose toxicity

Study results

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

Study data: oral

4 studies submitted
2 studies processed

P/R Results

NOAEL (dog): 30 mg/kg bw/day [1]

LOAEL (rat): 10 mg/kg bw/day [1]

NOEL (dog): 15 mg/kg bw/day [1]

Study data: oral

⚠ No data available

Studies with data				
Key study	2			
Supporting study	1			
Weight of evidence				
Other	1			

Data waiving

no waivers

Study data: inhalation

0 studies submitted
0 studies processed

⚠ No data available

Study data: inhalation

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other				

Data waiving

no waivers

Study data: dermal

1 study submitted
0 studies processed

⚠ No automatically processable data submitted

Study data: dermal

Studies with data				
Key study				
Supporting study				
Weight of evidence				
Other	1			

Data waiving

no waivers

Endocrine disrupter mammalian screening - in vivo

- Data not provided by the registrant

The brief profile is based on non-confidential data contained in ECHA's databases at the time of generation. Please be aware that as additional data is submitted to ECHA, the brief profile will also be updated to reflect the new situation. All data remain the property of its respective owners.

Note that the brief profile is an automatically generated summary and that not all available data may be displayed. The content is subject to change without prior notice. The information has not been reviewed or verified by ECHA or any other authority. The Agency thus cannot guarantee the correctness of the information displayed. The identification of applicable legislative frameworks is done automatically and without manual verification. Therefore this does not constitute official and legally binding information. To confirm if a substance is covered by a specific legislative framework the official publication should be consulted.

Reproduction or further distribution of this information may be subject to copyright protection. Use of the information without obtaining the permission from the owner(s) of the respective information might violate the rights of the owner. The Agency does not take any responsibility whatsoever for any copyright or other infringements that may be caused by using the information. This brief profile is covered by the ECHA Legal Notice.