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Chiuso

Non mostrare più questo messaggio.



Un'agenzia dell'Unione europea

italiano (it)



L'Agenzia

Contatti

REGOLAMENTI E ATTIVITÀ ECHA

REGOLAMENTI

CONSULTAZIONI PUBBLICHE

INFORMAZIONI SULLE
SOSTANZE CHIMICHE

ASSISTENZA

REACH

CLP

BPR

PIC

ECHA > Substance Information

Visualizzazione Contenuto Web

Infocards are automatically generated based on industry data. What is an infocard?

RSS

2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol

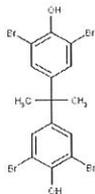
[Other names: Regulatory process names [4] Trade names [7] IUPAC names [12]

Substance identity

EC / List no.: 201-236-9

CAS no.: 79-94-7

Mol. formula:
C15H12Br4O2



About this substance

This substance is manufactured and/or imported in the European Economic Area in 1 000 - 10 000 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: **polymers**.
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), 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) and outdoor use in close systems with minimal release (e.g. hydraulic liquids in automotive suspension, lubricants in motor oil and break fluids).

Article service life

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

Hazard classification & labelling



Warning! According to the **harmonised classification and labelling** (ATP01) approved by the European Union, this substance is very toxic to aquatic life and is very toxic to aquatic life with long lasting effects.



Additionally, the classification provided by companies to ECHA in **REACH registrations** identifies that this substance is suspected of causing cancer.

Important to know

Substance included in the Community Rolling Action Plan (CoRAP).

How to use it safely

Precautionary measures suggested by manufacturers and importers of this substance.

Guidance on the safe use of the substance provided by manufacturers and importers of this substance.

about INFOCARD - Last updated: 16/11/2017

Regulations and regulatory activities

This substance has been found in the following regulatory activities:

CLP

ESR



About this substance

General

This substance is manufactured and/or imported in the European Economic Area in 1 000 - 10 000 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: polymers.

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), 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) and outdoor use in close systems with minimal release (e.g. hydraulic liquids in automotive suspension, lubricants in motor oil and break fluids).

Article service life

This substance is used in the following activities or processes at workplace: the low energy manipulation of substances bound in materials or articles, production of mixtures or articles by tableting, compression, extrusion or pelletisation and high energy work-up of substances bound in materials or articles (e.g. hot rolling/forming, grinding, mechanical cutting, drilling or sanding).

Release to the environment of this substance can occur from industrial use: in the production of articles, industrial abrasion processing with low release rate (e.g. cutting of textile, cutting, machining or grinding of metal) and as processing aid. 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 complex articles, with no release intended: machinery, mechanical appliances and electrical/electronic products (e.g. computers, cameras, lamps, refrigerators, washing machines). 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

ECHA has no public registered data indicating whether or in which chemical products the substance might be used.

This substance is used in the following areas: building & construction work.

This substance is used in the following activities or processes at workplace: the low energy manipulation of substances bound in materials or articles.

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).

Formulation or re-packing

This substance is used in the following products: polymers. This substance has an industrial use resulting in manufacture of another substance (use of intermediates).

This substance is used in the following activities or processes at workplace: transfer of chemicals, batch processing in synthesis or formulation with opportunity for exposure, mixing in open batch processes, transfer of substance into small containers, production of mixtures or articles by tableting, compression, extrusion or pelletisation, blowing agents in manufacture of foam, closed processes with no likelihood of exposure, closed, continuous processes with occasional controlled exposure, closed batch processing in synthesis or formulation and laboratory work.

Release to the environment of this substance can occur from industrial use: formulation in materials, in the production of articles, in processing aids at industrial sites and for thermoplastic manufacture.

Uses at industrial sites

This substance is used in the following products: polymers. This substance has an industrial use resulting in manufacture of another substance (use of intermediates).

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, chemicals, electrical, electronic and optical equipment and machinery and vehicles.

This substance is used in the following activities or processes at workplace: transfer of chemicals, batch processing in synthesis or formulation with opportunity for exposure, mixing in open batch processes, transfer of substance into small containers, laboratory work, production of mixtures or articles by tableting, compression, extrusion or pelletisation, closed processes with no likelihood of exposure, closed, continuous processes with occasional controlled exposure, closed batch processing in synthesis or formulation, calendaring operations, 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), blowing agents in manufacture of foam, industrial spraying, roller or brushing applications and treatment of articles by dipping and pouring.

Release to the environment of this substance can occur from industrial use: in the production of articles, for thermoplastic manufacture, as processing aid, in processing aids at industrial sites and formulation in materials.

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

Precautions for using this substance have been recommended by its registrants under REACH, as follows:

Prevention statements

When handling this substance: obtain special instructions before use; avoid release to the environment; wear protective gloves and/or clothing, and eye and/or face protection as specified by manufacturer/supplier.

Response statements

In case of incident: If exposed or concerned: get medical advice/attention. Collect spillage.

Disposal statements

The substance must be disposed in accordance with local/regional/national/international regulation.

Guidance on the safe use of the substance provided by manufacturers and importers of this substance.

Registrants/suppliers

Active

- 3M Belgium BVBA/SPRL, Hermeslaan 7 1831 Diegem Belgium
- ALBEMARLE EUROPE SPRL, Parc Scientifique (Einstein) Rue du Bosquet 9 1348 LOUVAIN-LA-NEUVE Belgium
- Blue Cube Netherlands B.V., Axelsedam 3a 4531HH Terneuzen Netherlands
- Envigo Consulting Limited, Woolley Road Alconbury PE28 4HS Huntingdon Cambridgeshire United Kingdom
- Henkel Global Supply Chain B.V., Gustav Mahlerlaan 2970 1081 LA Amsterdam Netherlands
- ICL Europe Coöperatief U.A. (OR1), Koninng Wilhelminaplein 30 Prinsenhof 1062 KR Amsterdam Netherlands
- LANXESS Sales Netherlands B.V., Ankerweg 18 1041AT Amsterdam Netherlands
- LANXESS SOLUTIONS UK LTD (US03), Tenax Road M17 1WT Manchester United Kingdom
- SABIC Innovative Plastics BV, Plasticlaan 1 4612 PX Bergen op Zoom Netherlands Netherlands
- SABIC Innovative Plastics Espana ScpA, Ctra. Cartagena-Alhama de Murcia km. 13. La Aljorra 30390 Cartagena Spain Spain
- TOSOH EUROPE B.V., Amstelplein 1 1096 HA Amsterdam Netherlands
- [Confidential], [Confidential]

Inactive

Other names

IUPAC names

-
- 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol
- 2,2',6,6'-Tetrabromo-4,4'-isopropylidenediphenol
- 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol
- 2,6-dibromo-4-[2-(3,5-dibromo-4-hydroxyphenyl)propan-2-yl]phenol
- 4,4'-Isopropylidenebis(2,6-dibromophenol)
- 4,4'-propane-2,2-diybis(2,6-dibromophenol)
- FR-1524
- TETRABROMO BISPHENOL (RM LEAD)
- Tetrabromobisphenol A
- Tetrabromobisphenol A, TBBA
- Tetrabromobisphenol-A

Regulatory processes names

- 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol
- 2,2,6,6-tetrabromo-4,4-isopropylidenediphenol
- tetrabromobisphenol-A

Trade names

- FR-1524
- Great Lakes BA-59P
- Great Lakes BA-59PC
- none, import in Epoxy Resin formulations
- Saytex CP-2000 Flame Retardant
- TBBPA
- Tetrabromobisphenol-A

Other names

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	Type of Study provided	Summaries												
		1 study submitted 1 study processed		0 summaries submitted 0 summaries processed												
C	Physical state at 20 °C and 1013 hPa Solid (100%) [1]		<table border="1"> <tr> <th>Studies with data</th> <th>▲</th> <th>📄</th> <th>📊</th> <th>📌</th> <th>Data waiving</th> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>No data available no waivers</td> </tr> </table>	Studies with data	▲	📄	📊	📌	Data waiving	Key study	1				No data available no waivers	▲ No data available
Studies with data	▲	📄	📊	📌	Data waiving											
Key study	1				No data available no waivers											
C	Form Powder (100%) [1]															
C	Odour Odourless (100%) [1]															
C	Substance type Organic (100%) [1]															
Melting/freezing point		2 studies submitted 2 studies processed		0 summaries submitted 0 summaries processed												
R	Melting / freezing point 179 - 181 °C [2]		<table border="1"> <tr> <th>Studies with data</th> <th>▲</th> <th>📄</th> <th>📊</th> <th>📌</th> <th>Data waiving</th> </tr> <tr> <td>Weight of evidence</td> <td>2</td> <td></td> <td></td> <td></td> <td>No data available no waivers</td> </tr> </table>	Studies with data	▲	📄	📊	📌	Data waiving	Weight of evidence	2				No data available no waivers	▲ No data available
Studies with data	▲	📄	📊	📌	Data waiving											
Weight of evidence	2				No data available no waivers											
Boiling point		1 study submitted 0 studies processed		0 summaries submitted 0 summaries processed												
▲ No automatically processable data submitted			<table border="1"> <tr> <th>Studies with data</th> <th>▲</th> <th>📄</th> <th>📊</th> <th>📌</th> <th>Data waiving</th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>No data available Not feasible 1</td> </tr> </table>	Studies with data	▲	📄	📊	📌	Data waiving						No data available Not feasible 1	▲ No data available
Studies with data	▲	📄	📊	📌	Data waiving											
					No data available Not feasible 1											
Density		3 studies submitted 2 studies processed		0 summaries submitted 0 summaries processed												
R	Relative density 2.17 [1]		<table border="1"> <tr> <th>Studies with data</th> <th>▲</th> <th>📄</th> <th>📊</th> <th>📌</th> <th>Data waiving</th> </tr> <tr> <td>Weight of evidence</td> <td>3</td> <td></td> <td></td> <td></td> <td>No data available no waivers</td> </tr> </table>	Studies with data	▲	📄	📊	📌	Data waiving	Weight of evidence	3				No data available no waivers	▲ No data available
Studies with data	▲	📄	📊	📌	Data waiving											
Weight of evidence	3				No data available no waivers											
R	Tap density 1.75 g/cm³ [1]															
Vapour pressure		1 study submitted 1 study processed		0 summaries submitted 0 summaries processed												
R	Vapour pressure 0 Pa @ 20 °C [1]		<table border="1"> <tr> <th>Studies with data</th> <th>▲</th> <th>📄</th> <th>📊</th> <th>📌</th> <th>Data waiving</th> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>No data available no waivers</td> </tr> </table>	Studies with data	▲	📄	📊	📌	Data waiving	Key study	1				No data available no waivers	▲ No data available
Studies with data	▲	📄	📊	📌	Data waiving											
Key study	1				No data available no waivers											

Partition coefficient				
Study results	2 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
R Log Pow 5.903 @ 25 °C [1]		Studies with data	Data waiving	No data available
		Key study	1	no waivers
		Supporting study	1	

Water solubility				
Study results	4 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
R Water solubility (mass/vol.) 148 - 2 340 µg/L @ 25 °C and pH 5 - 9 [3]		Studies with data	Data waiving	No data available
		Key study	1	no waivers
		Supporting study	3	

Solubility in organic solvents / fat solubility				
			Data not provided by the registrant	

Surface tension				
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	Data waiving	No data available
		Other	1	

Flash point				
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	Data waiving	No data available
		Not feasible	1	

Auto flammability				
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	Data waiving	No data available
		Sci. unjustified	1	

Flammability				
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	Data waiving	No data available
		Sci. unjustified	1	

Explosiveness				
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	Data waiving	No data available
		Sci. unjustified	1	

Oxidising				
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	Data waiving	No data available
		Sci. unjustified	1	

Oxidation reduction potential				
			Data not provided by the registrant	

pH				
			Data not provided by the registrant	

Dissociation constant																											
Study results	3 studies submitted 1 study processed	Type of Study provided	Summaries 0 summaries submitted 0 summaries processed																								
C Dissociating properties Yes (100%) [1]		<table border="1"> <tr> <td>Studies with data</td> <td>▲</td> <td>📄</td> <td>📊</td> <td>📈</td> <td>📉</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Other</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	▲	📄	📊	📈	📉	Key study	1					Supporting study	1					Other	1					Data waiving no waivers ▲ No data available
Studies with data	▲	📄	📊	📈	📉																						
Key study	1																										
Supporting study	1																										
Other	1																										
R Dissociation constant 9.37 - 9.43 @ 20 °C [2]																											

Viscosity															
Study results	1 study submitted 0 studies processed	Type of Study provided	Summaries 0 summaries submitted 0 summaries processed												
▲ No automatically processable data submitted		<table border="1"> <tr> <td>Studies with data</td> <td>▲</td> <td>📄</td> <td>📊</td> <td>📈</td> <td>📉</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	▲	📄	📊	📈	📉	Key study	1					Data waiving Not feasible 1 ▲ No data available
Studies with data	▲	📄	📊	📈	📉										
Key study	1														

Environmental fate and pathways

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Phototransformation in air															
Study results	1 study submitted 1 study processed	Type of Study provided	Summaries 0 summaries submitted 0 summaries processed												
R Dissipation half life (DT50) 2.88 h [1]		<table border="1"> <tr> <td>Studies with data</td> <td>▲</td> <td>📄</td> <td>📊</td> <td>📈</td> <td>📉</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	▲	📄	📊	📈	📉	Key study	1					Data waiving no waivers ▲ No data available
Studies with data	▲	📄	📊	📈	📉										
Key study	1														

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		<table border="1"> <tr> <td>Studies with data</td> <td>▲</td> <td>📄</td> <td>📊</td> <td>📈</td> <td>📉</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	▲	📄	📊	📈	📉	Key study	1					Data waiving Sci. unjustified 1 ▲ No data available
Studies with data	▲	📄	📊	📈	📉										
Key study	1														

Phototransformation in water															
Study results	1 study submitted 1 study processed	Type of Study provided	Summaries 0 summaries submitted 0 summaries processed												
R Dissipation Half-life (DT50) 16 - 350 min [9]		<table border="1"> <tr> <td>Studies with data</td> <td>▲</td> <td>📄</td> <td>📊</td> <td>📈</td> <td>📉</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	▲	📄	📊	📈	📉	Key study	1					Data waiving no waivers ▲ No data available
Studies with data	▲	📄	📊	📈	📉										
Key study	1														

Phototransformation in soil ▲ Data not provided by the registrant

Biodegradation in water - screening tests															
Study results	1 study submitted 1 study processed	Type of Study provided	Summaries 0 summaries submitted 0 summaries processed												
C Interpretation of results Under test conditions no biodegradation observed (100%) [1]		<table border="1"> <tr> <td>Studies with data</td> <td>▲</td> <td>📄</td> <td>📊</td> <td>📈</td> <td>📉</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	▲	📄	📊	📈	📉	Key study	1					Data waiving no waivers ▲ No data available
Studies with data	▲	📄	📊	📈	📉										
Key study	1														

Biodegradation in water & sediment - simulation tests ▲ Data not provided by the registrant

Biodegradation in soil																					
Study results	4 studies submitted 0 studies processed	Type of Study provided	Summaries 0 summaries submitted 0 summaries processed																		
▲ Study data not processed for brief profile		<table border="1"> <tr> <td>Studies with data</td> <td>▲</td> <td>📄</td> <td>📊</td> <td>📈</td> <td>📉</td> </tr> <tr> <td>Key study</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> </tr> </table>	Studies with data	▲	📄	📊	📈	📉	Key study	2					Supporting study	1		1			Data waiving no waivers ▲ No data available
Studies with data	▲	📄	📊	📈	📉																
Key study	2																				
Supporting study	1		1																		

Bioaccumulation: aquatic / sediment																			
Study results	5 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed															
<p>⚠ Study data not processed for brief profile</p>		<table border="1"> <tr> <td>Studies with data</td> <td>⚠</td> <td>📄</td> <td>📊</td> <td>⚠</td> </tr> <tr> <td>Key study</td> <td>3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>2</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	⚠	📄	📊	⚠	Key study	3				Supporting study	2				Data waiving	⚠ No data available
Studies with data	⚠	📄	📊	⚠															
Key study	3																		
Supporting study	2																		
			no waivers																

Bioaccumulation: terrestrial														
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed										
<p>⚠ Study data not processed for brief profile</p>		<table border="1"> <tr> <td>Studies with data</td> <td>⚠</td> <td>📄</td> <td>📊</td> <td>⚠</td> </tr> <tr> <td>Key study</td> <td>2</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	⚠	📄	📊	⚠	Key study	2				Data waiving	⚠ No data available
Studies with data	⚠	📄	📊	⚠										
Key study	2													
			no waivers											

Adsorption/desorption																			
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed															
<p>⚠ No automatically processable data submitted</p>		<table border="1"> <tr> <td>Studies with data</td> <td>⚠</td> <td>📄</td> <td>📊</td> <td>⚠</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	⚠	📄	📊	⚠	Key study	1				Supporting study	1				Data waiving	⚠ No data available
Studies with data	⚠	📄	📊	⚠															
Key study	1																		
Supporting study	1																		
			no waivers																

Henry's law constant (H)														
Study results	1 study submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed										
<p>⚠ No automatically processable data submitted</p>		<table border="1"> <tr> <td>Studies with data</td> <td>⚠</td> <td>📄</td> <td>📊</td> <td>⚠</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	⚠	📄	📊	⚠	Key study	1				Data waiving	⚠ No data available
Studies with data	⚠	📄	📊	⚠										
Key study	1													
			no waivers											

Distribution modelling																								
Study results	1 study submitted 1 study processed	Type of Study provided	⚠ No summary exists for this scientific endpoint																					
<p>% Distribution in Media:</p> <table border="1"> <tr> <td><input type="checkbox"/> Air</td> <td>0 % [1]</td> </tr> <tr> <td><input type="checkbox"/> Water</td> <td>0.632 % [1]</td> </tr> <tr> <td><input type="checkbox"/> Soil</td> <td>53.2 % [1]</td> </tr> <tr> <td><input type="checkbox"/> Sediment</td> <td>46.2 % [1]</td> </tr> <tr> <td><input type="checkbox"/> Aerosol</td> <td>0 % [1]</td> </tr> </table>		<input type="checkbox"/> Air	0 % [1]	<input type="checkbox"/> Water	0.632 % [1]	<input type="checkbox"/> Soil	53.2 % [1]	<input type="checkbox"/> Sediment	46.2 % [1]	<input type="checkbox"/> Aerosol	0 % [1]	<table border="1"> <tr> <td>Studies with data</td> <td>⚠</td> <td>📄</td> <td>📊</td> <td>⚠</td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	⚠	📄	📊	⚠	Key study	1				Data waiving	no waivers
<input type="checkbox"/> Air	0 % [1]																							
<input type="checkbox"/> Water	0.632 % [1]																							
<input type="checkbox"/> Soil	53.2 % [1]																							
<input type="checkbox"/> Sediment	46.2 % [1]																							
<input type="checkbox"/> Aerosol	0 % [1]																							
Studies with data	⚠	📄	📊	⚠																				
Key study	1																							

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)				
<input type="checkbox"/> Summaries				1 summary submitted 1 summary processed
<p>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.</p>				
Hazard for Aquatic Organisms		Hazard for Air		
Freshwater	16 µg/L (1)	Air	No hazard identified (1)	
Intermittent releases (freshwater)	-	Hazard for Terrestrial Organism		
Marine water	340 ng/L (1)	Soil	31 µg/kg soil dw (1)	
Intermittent releases (marine water)	-	Hazard for Predators		
Sewage treatment plant (STP)	1.5 mg/L (1)	Secondary poisoning	222.22 mg/kg food (1)	
Sediment (freshwater)	9 mg/kg sediment dw (1)			
Sediment (marine water)	1.8 mg/kg sediment dw (1)			

Short-term toxicity to fish																			
Study results	5 studies submitted 3 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed															
P/R Results	LC50 (6 days) 490 µg/L [1] LC50 (4 days) 540 - 1 100 µg/L [3] LC50 (48 h) 800 µg/L [1] NOEC (6 days) 260 µg/L [1] NOEC (4 days) 1.1 mg/L [1]	<table border="1"> <tr> <td>Studies with data</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Key study</td> <td>3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>2</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Key study	3				Supporting study	2				Data waiving no waivers	<input type="checkbox"/> No data available
Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>															
Key study	3																		
Supporting study	2																		

Long-term toxicity to fish																			
Study results	2 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed															
P/R Results	NOEC (35 days) 160 µg/L [1] LOEC (35 days) 310 µg/L [1]	<table border="1"> <tr> <td>Studies with data</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Key study	1				Supporting study	1				Data waiving no waivers	<input type="checkbox"/> No data available
Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>															
Key study	1																		
Supporting study	1																		

Short-term toxicity to aquatic invertebrates																			
Study results	4 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed															
P/R Results	LC50 (48 h) 1.8 mg/L [1] LC50 (24 h) 1.8 mg/L [1] NOEC (48 h) 1.8 mg/L [1]	<table border="1"> <tr> <td>Studies with data</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>3</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Key study	1				Supporting study	3				Data waiving no waivers	<input type="checkbox"/> No data available
Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>															
Key study	1																		
Supporting study	3																		

Long-term toxicity to aquatic invertebrates																			
Study results	3 studies submitted 2 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed															
P/R Results	NOEC (70 days) 17 µg/L [1] NOEC (42 days) 32 µg/L [1] NOEC (21 days) 380 µg/L [1] NOEC (14 days) 62 µg/L [1] LOEC (70 days) 32 µg/L [1]	<table border="1"> <tr> <td>Studies with data</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Key study</td> <td>2</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Key study	2				Supporting study	1				Data waiving no waivers	<input type="checkbox"/> No data available
Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>															
Key study	2																		
Supporting study	1																		

Toxicity to aquatic algae and cyanobacteria																			
Study results	4 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed															
P/R Results	NOEC (4 days) 5.6 mg/L [1]	<table border="1"> <tr> <td>Studies with data</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Supporting study</td> <td>3</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Key study	1				Supporting study	3				Data waiving no waivers	<input type="checkbox"/> No data available
Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>															
Key study	1																		
Supporting study	3																		

Toxicity to aquatic plants other than algae Data not provided by the registrant

Toxicity to microorganisms														
Study results	1 study submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed										
P/R Results	EC50 (3 h) 15 mg/L [1]	<table border="1"> <tr> <td>Studies with data</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Key study	1				Data waiving no waivers	<input type="checkbox"/> No data available
Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
Key study	1													

Sediment toxicity														
Study results	5 studies submitted 5 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed										
P/R Results	NOEC (28 days) 90 - 254 mg/kg sediment dw [4] NOEC (14 days) 39 - 46 µg/L [3] LOEC (28 days) 151 - 500 mg/kg sediment dw [4] EC50 (28 days) 235 - 1 000 mg/kg sediment dw [4]	<table border="1"> <tr> <td>Studies with data</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Key study</td> <td>5</td> <td></td> <td></td> <td></td> </tr> </table>	Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Key study	5				Data waiving no waivers	<input type="checkbox"/> No data available
Studies with data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
Key study	5													

Endocrine disrupter testing in aquatic vertebrates - in vivo Data not provided by the registrant

Toxicity to terrestrial macroorganisms except arthropods				
Study results	3 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
P/R Results				
NOEC (56 days) 310 µg/kg soil dw [1]		Studies with data	NOEC	△ No data available
NOEC (28 days) 20 mg/kg soil dw [1]		Key study	1	
		Supporting study	2	
		Data waiving	no waivers	

Toxicity to terrestrial arthropods △ Data not provided by the registrant

Toxicity to terrestrial plants				
Study results	2 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
P/R Results				
NOEC (21 days) 20 - 5 000 mg/kg soil dw [6]		Studies with data	NOEC	△ No data available
LOEC (21 days) 78 - 1 250 mg/kg soil dw [5]		Key study	1	
EC50 (21 days) 459 - 5 000 mg/kg soil dw [5]		Supporting study	1	
		Data waiving	no waivers	

Toxicity to soil microorganisms				
Study results	2 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
P/R Results				
EC10 (28 days) 1 g/kg soil dw [1]		Studies with data	EC10	△ No data available
		Key study	1	
		Supporting study	1	
		Data waiving	no waivers	

Toxicity to birds				
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	Sci. unjustified	△ No data available
			1	

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) 17.6 mg/m ³	repeated dose toxicity
Acute /short term:	No hazard identified	

Long-term:	No hazard identified	
Acute /short term:	No hazard identified	

DERMAL Exposure	Threshold	Most sensitive study
Long-term:	(DNEL) 250 mg/kg bw/day	repeated dose toxicity
Acute /short term:	No DNEL required: short term exposure controlled by conditions for long-term	

Long-term:	No hazard identified	
Acute /short term:	No hazard identified	

EYE Exposure

No hazard identified

Data for the GENERAL POPULATION

INHALATION Exposure	Threshold	Most sensitive study
Long-term:	(DNEL) 4.3 mg/m ³	developmental toxicity / teratogenicity
Acute /short term:	No hazard identified	

Long-term:	No hazard identified	
Acute /short term:	No hazard identified	

DERMAL Exposure	Threshold	Most sensitive study
Long-term:	(DNEL) 125 mg/kg bw/day	repeated dose toxicity
Acute /short term:	No DNEL required: short term exposure controlled by conditions for long-term	

Long-term:	No hazard identified	
Acute /short term:	No hazard identified	

ORAL Exposure	Threshold	Most sensitive study
---------------	-----------	----------------------

Long-term:	(DNEL) 2.5 mg/kg bw/day	repeated dose toxicity
Acute /short term:	No hazard identified	

EYE Exposure

No hazard identified

Toxicokinetics, metabolism, and distribution

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

Study data not processed for brief profile

Study data: basic toxicokinetics

No data available

Study data not processed for brief profile

Studies with data

Data waiving

Key study 2

no waivers

Supporting study 1

Study data not processed for brief profile

Study data: dermal absorption

Study data not processed for brief profile

Studies with data

Data waiving

Key study 1

no waivers

Acute toxicity		Summaries																			
Study results	Type of Study provided	0 summaries submitted	0 summaries processed																		
oral 6 studies submitted 1 study processed P/R Results LD50 5 000 mg/kg bw (rat) [1] M/C Interpretations of results Not classified [1]	oral <table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> <tr> <td>Supporting study</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				no waivers	Supporting study	5					⚠ No data available	
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inhalation 3 studies submitted 1 study processed M/C Interpretations of results Not classified [1]	inhalation <table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>Other 1</td> </tr> <tr> <td>Supporting study</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				Other 1	Supporting study	1						
Studies with data	⚠	📄	📊	⚠	Data waiving																
Key study	1				Other 1																
Supporting study	1																				
dermal 3 studies submitted 1 study processed M/C Interpretations of results Not classified [1]	dermal <table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> <tr> <td>Supporting study</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				no waivers	Supporting study	2						
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Key study	1				no waivers																
Supporting study	2																				
other routes 0 studies submitted 0 studies processed ⚠ No data available	other routes <table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving						no waivers								
Studies with data	⚠	📄	📊	⚠	Data waiving																
					no waivers																

Irritation / corrosion		Summaries																			
Study results	Type of Study provided	0 summaries submitted	0 summaries processed																		
Study data: skin 3 studies submitted 0 studies processed ⚠ Study data not processed for brief profile	Study data: skin <table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> <tr> <td>Supporting study</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				no waivers	Supporting study	2					⚠ No data available	
Studies with data	⚠	📄	📊	⚠	Data waiving																
Key study	1				no waivers																
Supporting study	2																				
Study data: eye 4 studies submitted 0 studies processed ⚠ Study data not processed for brief profile	Study data: eye <table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> <tr> <td>Supporting study</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				no waivers	Supporting study	3						
Studies with data	⚠	📄	📊	⚠	Data waiving																
Key study	1				no waivers																
Supporting study	3																				

Sensitisation		Type of Study provided	Summaries																		
Study results			0 summaries submitted 0 summaries processed																		
Study data: oral	0 studies submitted 0 studies processed	Study data: skin	⚠ No data available																		
⚠ Study data not processed for brief profile		<table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> <tr> <td>Supporting study</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				no waivers	Supporting study	2					
Studies with data	⚠	📄	📊	⚠	Data waiving																
Key study	1				no waivers																
Supporting study	2																				
Study data: respiratory	0 studies submitted 0 studies processed	Study data: respiratory																			
⚠ Study data not processed for brief profile		<table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving						no waivers							
Studies with data	⚠	📄	📊	⚠	Data waiving																
					no waivers																

Repeated dose toxicity		Type of Study provided	Summaries																		
Study results			0 summaries submitted 0 summaries processed																		
Study data: oral	5 studies submitted 1 study processed	Study data: oral	⚠ No data available																		
P/R Results NOAEL (rat): 1 000 mg/kg bw/day [1]		<table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> <tr> <td>Supporting study</td> <td>4</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				no waivers	Supporting study	4					
Studies with data	⚠	📄	📊	⚠	Data waiving																
Key study	1				no waivers																
Supporting study	4																				
Study data: inhalation	1 study submitted 1 study processed	Study data: inhalation																			
P/R Results NOAEC (rat): 18 mg/L air [2]		<table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				no waivers							
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Key study	1				no waivers																
Study data: dermal	1 study submitted 1 study processed	Study data: dermal																			
P/R Results NOAEL (rabbit): 2 500 mg/kg bw/day [1]		<table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>1</td> <td></td> <td></td> <td></td> <td>no waivers</td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	1				no waivers							
Studies with data	⚠	📄	📊	⚠	Data waiving																
Key study	1				no waivers																

Genetic toxicity		Type of Study provided	Summaries																		
Study results			0 summaries submitted 0 summaries processed																		
Study data: in vitro	0 studies submitted 0 studies processed	Study data: in vitro	⚠ No data available																		
⚠ Study data not processed for brief profile		<table border="1"> <thead> <tr> <th>Studies with data</th> <th>⚠</th> <th>📄</th> <th>📊</th> <th>⚠</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study</td> <td>3</td> <td></td> <td></td> <td></td> <td>Sci. unjustified 1</td> </tr> <tr> <td>Supporting study</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Studies with data	⚠	📄	📊	⚠	Data waiving	Key study	3				Sci. unjustified 1	Supporting study	2					
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Study data: in vivo	1 study submitted 0 studies processed	Study data: in vivo																			
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Studies with data	⚠	📄	📊	⚠	Data waiving																
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Carcinogenicity		Type of Study provided	Summaries																		
Study results	2 studies submitted 0 studies processed		0 summaries submitted 0 summaries processed																		
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Toxicity to reproduction																											
Study results	0 studies submitted 0 studies processed	Type of Study provided	Summaries 0 summaries submitted 0 summaries processed																								
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Neurotoxicity															
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Endocrine disrupter mammalian screening - in vivo ⚠ Data not provided by the registrant

Legend	Type of study	Type of aggregation
⚠	Experimental results	C Concatenated distinct values
📄	Read across based on grouping of substance (category approach) or Read-across from supporting substance (structural analogue or surrogate)	R Range of values
📊	Estimated by calculation or (Q)SAR	P/R Prioritisation (Eco)Toxicology AND Range of values
⚠	Experimental study planned, other or unspecified	M/C Most Conservative of values

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