

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.

Wastes, lead battery reprocessing

Material obtained during the recycling of exhausted lead storage batteries. Consists primarily of oxides and sulfates of lead and lead alloys.

Brief Profile - Last updated: 04/10/2018

Substance Description

Substance identity

EC / List name:	Wastes, lead battery reprocessing	SMILES:	[Pb++].O=[Pb].[O-]S([O-])(=O)=O
IUPAC name:	λ ² -lead(2+) ion plumbanone sulfate	InChI:	InChI=1S/H2O4S.O.2Pb/c1-5(2,3)4;;;/h(H2,1,2,3,4);;;/q;;;+2/p-2 AuxInfo=1/1/N:4,5,6,7,3;2;1;8/E:(1,2,3,4);;;/CRV:5.6;;;/rA:8PbOSOOO-O-Pb+2/rB:d1;;d3;d3;s3;s3;;/rC: 77,0,0;-77,0,0;6.27,0,0;6.27,-1.54,0;6.27,1.54,0;7.81,0,0;4.73,0,0;0,-4.62,0;
Other names:		Type of substance:	UVCB
EC / List no.:	305-445-7	Origin:	Inorganic
CAS no.:	94551-99-2	Registered compositions:	18
Index number:		Of which contain:	0 impurities relevant for classification 0 additives relevant for classification
Molecular formula:	O5Pb2S	Substance Listed:	EINECS (European INventory of Existing Commercial chemical Substances) List

Hazard classification & labelling



Danger! According to the classification provided by companies to ECHA in **REACH registrations** this substance may damage fertility or the unborn child, causes damage to organs through prolonged or repeated exposure, is very toxic to aquatic life, is very toxic to aquatic life with long lasting effects, is harmful if swallowed, causes serious eye irritation, is harmful if inhaled, is suspected of causing cancer and may cause an allergic skin reaction.



Additionally, the classification provided by companies to ECHA in **CLP notifications** identifies that this substance may cause cancer and may cause damage to organs through prolonged or repeated exposure.

Breakdown of all 15 C&L notifications submitted to ECHA

Notification	Code	Percentage
Repr. 1A	H360	~13%
Aquatic Chronic 1	H410	~13%
Acute Tox. 4	H302	~13%
Acute Tox. 4	H332	~13%
Skin Sens. 1	H317	~13%
STOT RE 1	H372	~13%
Aquatic Acute 1	H400	~13%
Eye Irrit. 2	H319	~13%
Carc. 2	H351	~13%
Carc. 1A	H350	~7%
STOT RE 2	H373	~7%

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

- Harmonised Classification
- REACH registration dossiers notifications
- CLP notifications

Properties of concern



Regulatory activities

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

Registration

Pre-registration: Substance pre-registered under REACH.

Registration: This substance has 14 active registrations under REACH, 1 Joint Submission(s) and 0 Individual Submission(s).

Evaluation

Dossier Evaluation:

Substance Evaluation:

Authorisation

Candidate List:

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:

European Union Observatory for Nanomaterials (EUON)

EUON:

About this substance

General

This substance is manufactured and/or imported in the European Economic Area in 10 000 - 100 000 tonnes per year.

This substance is used at industrial sites and in manufacturing.

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 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.

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 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.

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 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.

Uses at industrial sites

This substance has an industrial use resulting in manufacture of another substance (use of intermediates).

This substance is used for the manufacture of: metals.

This substance is used in the following activities or processes at workplace: closed, continuous processes with occasional controlled exposure, the low energy manipulation of substances bound in materials or articles, transfer of chemicals at dedicated facilities, handling of solid inorganic substances (e.g. ores and raw metal oxides, packaging/mixing/blending and weighing of metal powders), batch processing in synthesis or formulation with opportunity for exposure, potentially closed industrial processing with minerals/metals at elevated temperature (e.g. smelters, furnaces, refineries, coke ovens), open transfer and processing with minerals/metals at elevated temperature, closed batch processing in synthesis or formulation and transfer of substance into small containers.

Release to the environment of this substance can occur from industrial use: as an intermediate step in further manufacturing of another substance (use of intermediates).

Manufacture

This substance is used in the following activities or processes at workplace: closed, continuous processes with occasional controlled exposure, transfer of chemicals at dedicated facilities, the low energy manipulation of substances bound in materials or articles, handling of solid inorganic substances (e.g. ores and raw metal oxides, packaging/mixing/blending and weighing of metal powders), batch processing in synthesis or formulation with opportunity for exposure, potentially closed industrial processing with minerals/metals at elevated temperature (e.g. smelters, furnaces, refineries, coke ovens), open transfer and processing with minerals/metals at elevated temperature, closed batch processing in synthesis or formulation and transfer of substance into small containers.

Release to the environment of this substance can occur from industrial use: manufacturing of the substance.

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

- Azor Ambiental S.A., Ctra. Madrid Km.387 Pol. Ind. La Polvorista 30500 Molina de Segura Murcia Spain
- BATERPOL SA, Obr. Westerplatte 108 40-335 Katowice Poland
- Eco-Bat S.p.A., via strada statale dei giovani, 5 20037 Paderno Dugnano MI Italy
- Ecometal, Keskk 2/26 40231 Sillamäe Estonia
- ESI SPA, Z.I. Giammoro 98042 Pace del Mela Sicily Italy
- Exide Technologies Recycling II, Lda, Estrada Nacional n.º3, Km6,5 Vila Nova da Rainha 2050-306 Azambuja Lisboa Portugal
- Exide Technologies Recycling, S.L., Ronda de D'alt, s/n. 17.164 Bonmatí (Girona) Spain
- Exide Technologies, S.L., Ctra. Nacional II km 41,8 19.200 Azuqueca de Henares Guadalajara Spain
- F Murphy Alloys, Templewood Estate CM2 8LA Chelmsford Essex United Kingdom
- G Fiis Sharkov Ltd, Patriarh Evtimii 28 4000 Plovdiv Bulgaria
- LOXA Sp. z o.o., Myszkowska 61 42-310 Żarki Poland
- Orzel-Bialy S.A., W.Roździeńskiego 24 41-946 Piekary Śląskie Upper Silesia Poland
- Portovesme s.r.l., S.P. n. 2 Carbonia-Portoscuso km 16.5 09010 Portoscuso Carbonia-Iglesias Italy
- Weser-Metall GmbH, Johannastrasse 2 26954 Nordenham Germany

Inactive

- Aurubis AG, Hovestrasse 50 20539 Hamburg Hamburg Germany
- Berzelius Stolberg GmbH, Binsfeldhammer 14 52224 Stolberg Germany
- BSB Recycling GmbH, Emser Strasse 11 56338 Braubach Germany
- Harz-Metall GmbH, Huettenstrasse 6 38642 Goslar Germany
- KCM S.A., Assenovgradsko shosse 4009 Plovdiv Bulgaria
- RCyclex SA, 79, rue Jean-Jacques Rousseau 92158 Suresnes Cedex France
- Umicore NV/SA, Rue du Marais 31 1000 Brussels Belgium

Other names

IUPAC names

- -
- Lead (from recycling)
- Lead battery paste
- Lead battery paste (from recycling)
- Wastes, lead battery reprocessing
- λ^2 -lead(2+) ion plumbanone sulfate

Regulatory processes names

- Wastes, lead battery reprocessing
- Wastes, lead battery reprocessing (Material obtained during the recycling of exhausted lead storage batteries. Consists primarily of oxides and sulfates of lead and lead alloys.)

Trade names

- Batteriepaste aus der Aufbereitung
- Fines de Batteries au Plomb (du Recyclage)
- pasta ołowiowa

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

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]

Studies with data



Data waiving

no waivers

⚠ No data available

Key study

1

C Form

Paste (100%) [1]

C Odour

Odourless (100%) [1]

C Substance type

Inorganic (100%) [1]

Melting/freezing 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 waivers

⚠ No data available

Key study

1

Boiling 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

Other

1

⚠ No data available

Density

Study results

1 study submitted
1 study processed

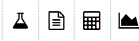
Type of Study provided

Summaries

0 summaries submitted
0 summaries processed**R** Relative density

6.78 @ 20 °C [1]

Studies with data



Data waiving

no waivers

⚠ No data available

Key study

1

Vapour pressure

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

Other

1

⚠ No data available

Partition coefficient

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

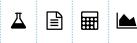


Data waiving

Other

1

⚠ No data available

Water solubility**Study results**1 study submitted
1 study processed**Type of Study provided****Summaries**0 summaries submitted
0 summaries processed**R** **Water solubility (mass/vol.)**
500 - 229 000 µg/L @ 20 °C and pH 8.36 - 8.42 [1]**Studies with data**

Key study

1

Data waiving

no waivers

⚠ 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**Type of Study provided****Summaries**0 summaries submitted
0 summaries processed

⚠ No automatically processable data submitted

Studies with data**Data waiving**

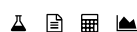
Other

1

⚠ No data available

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**

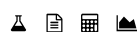
Other

1

⚠ No data available

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**Sci.
unjustified

1

⚠ No data available

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**Sci.
unjustified

1

⚠ No data available

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**

Other

1

⚠ No data available

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**

Other

1

⚠ No data available

Oxidation reduction potential

⚠ Data not provided by the registrant

pH

⚠ Data not provided by the registrant

Dissociation constant

Study results	1 study submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
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⚠ No automatically processable data submitted

Studies with data**Data waiving**

Other 1

⚠ No data available

Viscosity

Study results	1 study submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
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⚠ No automatically processable data submitted

Studies with data**Data waiving**

Sci. unjustified 1

⚠ 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
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⚠ Study data not processed for brief profile

Studies with data**Data waiving**

Sci. unjustified 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
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⚠ No automatically processable data submitted

Studies with data**Data waiving**

Sci. unjustified 1

⚠ No data available

Biodegradation in water & sediment - simulation tests

⚠ Data not provided by the registrant

Biodegradation in soil

Study results

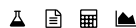
1 study submitted
0 studies processed

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

⚠ Study data not processed for brief profile

Studies with data**Data waiving**

⚠ No data available

Sci.
unjustified

1

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**Data waiving**

⚠ No data available

Supporting
study

1

Sci.
unjustified

1

Bioaccumulation: terrestrial

⚠ Data not provided by the registrant

Adsorption/desorption

Study results

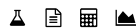
1 study submitted
0 studies processed

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

⚠ No automatically processable data submitted

Studies with data**Data waiving**

⚠ No data available

Sci.
unjustified

1

Henry's 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](#)

13 summaries submitted
13 summaries 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

Hazard for Air

Air No hazard identified (4)

Hazard for Terrestrial Organism

Soil 22 - 147 000 µg/kg soil dw (12)

Hazard for Predators

Secondary poisoning 160 - 10 900 µg/kg food (4)

Freshwater	40 - 12 700 000 ng/L (13)
Intermittent releases (freshwater)	1.2 - 57.9 µg/L (4)
Marine water	67.2 - 1 910 000 ng/L (13)
Intermittent releases (marine water)	-
Sewage treatment plant (STP)	2.25 - 100 000 µg/L (13)
Sediment (freshwater)	1.8 - 22 600 mg/kg sediment dw (12)
Sediment (marine water)	340 - 1 984 000 µg/kg sediment dw (12)





Short-term toxicity to fish

[Study results](#) 1 study submitted
1 study processed

Type of Study provided

[Summaries](#) 0 summaries submitted
0 summaries processed

P/R **Results**
EC50 (4 days) 1 mg/L [1]

Studies with data    
Key study 1

Data waiving  No data available
no waivers





Long-term toxicity to fish

[Study results](#) 1 study submitted
1 study processed

Type of Study provided

[Summaries](#) 0 summaries submitted
0 summaries processed

P/R **Results**
NOEC (28 days) 100 µg/L [1]

Studies with data    
Key study 1

Data waiving  No data available
no waivers




Short-term toxicity to aquatic invertebrates

[Study results](#) 1 study submitted
1 study processed

Type of Study provided

[Summaries](#) 0 summaries submitted
0 summaries processed

P/R **Results**
EC50 (48 h) 1 mg/L [1]

Studies with data    
Key study 1

Data waiving  No data available
no waivers





Long-term toxicity to aquatic invertebrates

[Study results](#) 1 study submitted
1 study processed

Type of Study provided

[Summaries](#) 0 summaries submitted
0 summaries processed

P/R **Results**
NOEC (21 days) 100 µg/L [1]

Studies with data    
Key study 1

Data waiving  No data available
no waivers

Toxicity to aquatic algae and cyanobacteria

Study results

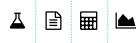
2 studies submitted
2 studies processed

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed**P/R** ResultsEC50 (72 h) 1 mg/L [1]
EC10 (72 h) 100 µg/L [1]

Studies with data



Key study

2

Data waiving

no waivers

⚠ No data available

Toxicity to aquatic plants other than algae

⚠ Data not provided by the registrant

Toxicity to microorganisms

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

Other

1

⚠ No data available

Sediment toxicity

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

Other

1

⚠ No data available

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

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

⚠ No automatically processable data submitted

Studies with data



Data waiving

Other

1

⚠ No data available

Toxicity to terrestrial arthropods

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

Other

1

⚠ No data available

Toxicity to terrestrial plants

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

Other

1

⚠ No data available

Toxicity to soil microorganisms

Study results

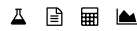
1 study submitted
0 studies processed

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

Toxicity to birds

Study results

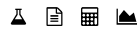
1 study submitted
0 studies processed

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

⚠ No automatically processable data submitted

**Studies
with data****Data waiving**

⚠ No data available

Other 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

25 summaries submitted
24 summaries 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

Data for the GENERAL POPULATION

INHALATION Exposure	Threshold	Most sensitive study
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INHALATION Exposure	Threshold	Most sensitive study
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Systemic Effects**Systemic Effects**

Long-term:	(DNEL) 4 µg/m ³	repeated dose toxicity
Acute /short term:	(DNEL) 16 mg/m ³	acute toxicity

Long-term:	(DNEL) 20 ng/m ³	developmental toxicity / teratogenicity
Acute /short term:	(DNEL) 9.6 mg/m ³	acute toxicity

Local Effects**Local Effects**

Long-term:	(DNEL) 4 µg/m ³	repeated dose toxicity
Acute /short term:	(DNEL) 470 µg/m ³	repeated dose toxicity

Long-term:	(DNEL) 20 ng/m ³	repeated dose toxicity
Acute /short term:	(DNEL) 280 µg/m ³	repeated dose toxicity

DERMAL Exposure	Threshold	Most sensitive study
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DERMAL Exposure	Threshold	Most sensitive study
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Systemic Effects**Systemic Effects**

Long-term:	(DNEL) 112 µg/kg bw/day	carcinogenicity
Acute /short term:	(DNEL) 273 mg/kg bw/day	repeated dose toxicity

Long-term:	(DNEL) 112 µg/kg bw/day	carcinogenicity
Acute /short term:	(DNEL) 273 mg/kg bw/day	repeated dose toxicity

Local Effects**Local Effects**

Long-term:	(DNEL) 440 ng/cm ²	sensitisation (skin)
Acute /short term:	Medium hazard (no threshold derived)	

Long-term:	(DNEL) 70 µg/cm ²	sensitisation (skin)
Acute /short term:	Medium hazard (no threshold derived)	

EYE Exposure

ORAL Exposure	Threshold	Most sensitive study
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






Low hazard (no threshold derived)

















Systemic Effects

Long-term:	(DNEL) 1 µg/kg bw/day	repeated dose toxicity
Acute /short term:	(DNEL) 12 µg/kg bw/day	sensitisation (skin)

























EYE Exposure

Low hazard (no threshold derived)

























Toxicokinetics, metabolism, and distribution			
Study results	Type of Study provided	Summaries	
			0 summaries submitted 0 summaries processed
Study data: basic toxicokinetics 1 study submitted 0 studies processed	Study data: basic toxicokinetics	⚠ No data available	
⚠ Study data not processed for brief profile	Studies with data     Data waiving Other 1		
Study data: dermal absorption 0 studies submitted 0 studies processed	Study data: dermal absorption		
⚠ Study data not processed for brief profile	Studies with data     Data waiving no waivers		

Acute toxicity			
Study results	Type of Study provided	Summaries	
			0 summaries submitted 0 summaries processed
oral 2 studies submitted 0 studies processed	oral	⚠ No data available	
⚠ No automatically processable data submitted	Studies with data     Key study 2 Data waiving no waivers		
inhalation 1 study submitted 0 studies processed	inhalation		
⚠ No automatically processable data submitted	Studies with data     Key study 1 Data waiving no waivers		
dermal 1 study submitted 1 study processed	dermal		
M/C Interpretations of results Not classified [1]	Studies with data     Key study 1 Data waiving no waivers		
other routes 0 studies submitted 0 studies processed	other routes		
⚠ No data available	Studies with data     Data waiving no waivers		

Irritation / corrosion

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

Sensitisation

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

Repeated dose toxicity

Study results





1 study submitted
0 studies processed

Study data: oral

⚠ No automatically processable data submitted

Type of Study provided

Study data: oral

Studies with data				
Key study			1	

Data waiving
no waivers

Summaries

0 summaries submitted
0 summaries processed





⚠ No data available

Study data: inhalation

1 study submitted
0 studies processed

⚠ No automatically processable data submitted

Study data: inhalation

Studies with data				
Key study			1	

Data waiving
no waivers

Study data: dermal

1 study submitted
0 studies processed

⚠ No automatically processable data submitted

Study data: dermal

Studies with data				
Other				1

Data waiving
Other

Genetic toxicity

Study results


2 studies submitted
0 studies processed

Study data: in vitro

⚠ Study data not processed for brief profile

Type of Study provided

Study data: in vitro

Studies with data				
Key study			2	

Data waiving
no waivers

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Study data: in vivo

0 studies submitted
0 studies processed

⚠ Study data not processed for brief profile

Study data: in vivo

Studies with data				

Data waiving
no waivers


Carcinogenicity

Study results

2 studies submitted
0 studies processed

⚠ Study data not processed for brief profile

Type of Study provided

Studies with data				
Key study			2	

Data waiving
no waivers

Summaries

0 summaries submitted
0 summaries processed

⚠ No data available

Toxicity to reproduction

Study results

Type of Study provided

Summaries

0 summaries submitted
0 summaries processed

Study data: reproduction

1 study submitted
0 studies processed

Study data: reproduction

⚠ No data available

⚠ Study data not processed for brief profile

Studies
with data

Data waiving

no waivers

Key study

1

Study data: developmental

1 study submitted
0 studies processed

Study data: developmental

⚠ Study data not processed for brief profile

Studies
with data

Data waiving

no waivers

Key study

1

Study data: other studies

0 studies submitted
0 studies processed

Study data: other studies

⚠ Study data not processed for brief profile

Studies
with data

Data waiving

no waivers

Neurotoxicity

⚠ Data not provided by the registrant

Immunotoxicity

⚠ Data not provided by the registrant

Endocrine disrupter mammalian screening - in vivo

⚠ Data not provided by the registrant

Legend

Type of study

- Experimental results
- Read across based on grouping of substance (category approach) or Read-across from supporting substance (structural analogue or surrogate)
- Estimated by calculation or (Q)SAR
- Experimental study planned, other or unspecified

Type of aggregation

- C Concatenated distinct values
- R Range of values
- P/R Prioritisation (Eco)Toxicology AND Range of values
- M/C Most Conservative of values

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