

## Lead sulfochromate yellow

This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.

### Substance identity

EC / List no.: 215-693-7

CAS no.: 1344-37-2

Mol. formula:  $\text{CrH}_2\text{O}_4\text{Pb}$

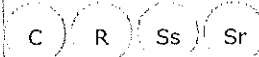
### Hazard classification & labelling



**Danger!** According to the harmonised classification and labelling (ATP01) approved by the European Union, this substance may cause cancer; may damage the unborn child and is suspected of damaging fertility, is very toxic to aquatic life, is very toxic to aquatic life with long lasting effects and may cause damage to organs through prolonged or repeated exposure.

**Additionally**, the classification provided by companies to ECHA in **REACH** registrations identifies that this substance may damage fertility or the unborn child, may cause an allergic skin reaction and may cause allergy or asthma symptoms or breathing difficulties if inhaled.

### Properties of concern



### Regulatory activities

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

Substance of very high concern requiring authorisation before it is used (Annex XIV of REACH).

### 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 in articles, by professional workers (widespread uses), in formulation or re-packing, 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 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.



about INFOCARD - Last updated: 02/06/2017



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 importers 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.

## Lead sulfochromate yellow

This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.

Brief Profile - Last updated: 12/01/2018

### Substance Description

#### Substance identity

EC / List name:	Lead sulfochromate yellow	SMILES:	[PbH2+] [O-][Cr](O-)(=O)=O
IUPAC name:	lead(2+) ion dioxochromiumbis(olate)	InChI:	InChI=1S/Cr4O6Pb2H/q;2+1+2; AuxInfo=1/0;N:2,3,4,5,6,1,7,8/A:6Pb2+2CrO6O-O/rB;d2;d2;s2;s2;/C:0;-1.54,0;4.62;-1.54,0;4.62,0,0;4.62;-3.08,0,6.16;-1.54,0;3.08;-1.54,0;
Other names		Type of substance:	Mono constituent substance
EC / List no.:	215-693-7	Origin:	Inorganic
CAS no.:	1344-37-2	Registered compositions:	7
Index number:	082-009-00-X	Of which contain:	0 impurities relevant for classification 0 additives relevant for classification
Molecular formula:	CrH2O4Pb	Substance Listed:	EINECS (European Inventory of Existing Commercial chemical Substances) List

#### Hazard classification & labelling



**Danger!** According to the harmonised classification and labelling (ATP01) approved by the European Union, this substance may cause cancer, may damage the unborn child and is suspected of damaging fertility, is very toxic to aquatic life, is very toxic to aquatic life with long lasting effects and may cause damage to organs through prolonged or repeated exposure.

Additionally, the classification provided by companies to ECHA in REACH registrations identifies that this substance may damage fertility or the unborn child, may cause an allergic skin reaction and may cause allergy or asthma symptoms or breathing difficulties if inhaled.

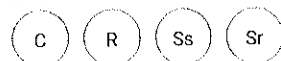
#### Breakdown of all 330 C&L notifications submitted to ECHA

Aquatic Acute 1	H400	✓
STOT RE 2	H373	✓
Carc. 1B	H350	✓
Repr. 1A	H360Df	✓
Aquatic Chronic 1	H410	✓
Skin Sens. 1	H317	
Resp. Sens. 1	H334	
Not Classified		
Carc. 2	H351	
Repr. 2	H361	

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 7 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):** Substance of very high concern requiring authorisation before it is used (Annex XIV of REACH).

###### Restriction

**Annex XVII**

##### Classification Labelling & Packaging (CLP)

**Harmonised C&L:** A European Union Harmonised Classification & Labelling has been assigned to this substance.

**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:** This substance is subject to the Prior Informed Consent regulation and to export notification procedure from 03-Dec-2015

**Annex V:**

## 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 in articles, by professional workers (widespread uses), in formulation or re-packing, 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

This substance is used in the following activities or processes at workplace: production of mixtures or articles by tableting, compression, extrusion or pelletisation, 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) and hot work operations with metals (e.g. welding, soldering, gouging, brazing, flame cutting).

Release to the environment of this substance can occur from industrial use: formulation of mixtures, formulation in materials, in the production of articles, industrial abrasion processing with low release rate (e.g. cutting of textile, cutting, machining or grinding of metal) and industrial abrasion processing with high release rate (e.g. sanding operations or paint stripping by shot-blasting). 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), outdoor use in long-life materials with high release rate (e.g. tyres, treated wooden products, treated textile and fabric, brake pads in trucks or cars, sanding of buildings (bridges, facades) or vehicles (ships)) and indoor use in long-life materials with high release rate (e.g. release from fabrics, textiles during washing, removal of indoor paints).

This substance can be found in complex articles, with no release intended: vehicles and 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), stone, plaster, cement, glass or ceramic (e.g. dishes, pots/pans, food storage containers, construction and isolation material), rubber (e.g. tyres, shoes, toys), wood (e.g. floors, furniture, toys) and metal (e.g. cutlery, pots, toys, jewellery).

### Widespread uses by professional workers

This substance is used in the following products: coating products, polymers and textile treatment products and dyes.

This substance is used in the following areas: building & construction work. This substance is used for the manufacture of: plastic products.

This substance is used in the following activities or processes at workplace: transfer of substance into small containers, transfer of chemicals, non-industrial spraying, mixing in open batch processes, industrial spraying, production of mixtures or articles by tableting, compression, extrusion or pelletisation, calendaring operations, roller or brushing applications, treatment of articles by dipping and pouring, hand mixing with intimate contact only with personal protective equipment available, high energy work-up of substances bound in materials or articles (e.g. hot rolling/forming, grinding, mechanical cutting, drilling or sanding), the low energy manipulation of substances bound in materials or articles, closed, continuous processes with occasional controlled exposure and closed batch processing in synthesis or formulation.

Release to the environment of this substance can occur from industrial use: in the production of articles, formulation of mixtures and formulation in materials. Other release to the environment of this substance is likely to occur from: indoor use, 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 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, coating products and textile treatment products and dyes.

This substance is used in the following activities or processes at workplace: transfer of chemicals, transfer of substance into small containers, mixing in open batch processes, production of mixtures or articles by tableting, compression, extrusion or pelletisation, laboratory work, closed, continuous processes with occasional controlled exposure, closed batch processing in synthesis or formulation, roller or brushing applications, the low energy manipulation of substances bound in materials or articles, closed processes with no likelihood of exposure, industrial spraying and hand mixing with intimate contact only with personal protective equipment available.

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

### Uses at industrial sites

This substance is used in the following products: coating products, polymers and textile treatment products and dyes.

This substance is used in the following areas: building & construction work. This substance is used for the manufacture of: plastic products, fabricated metal products and machinery and vehicles.

This substance is used in the following activities or processes at workplace: industrial spraying, non-industrial spraying, calendaring operations, roller or brushing applications, treatment of articles by dipping and pouring, hand mixing with intimate contact only with personal protective equipment available, transfer of substance into small containers, mixing in open batch processes, production of mixtures or articles by tableting, compression, extrusion or pelletisation, 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, closed batch processing in synthesis or formulation, the low energy manipulation of substances bound in materials or articles, closed, continuous processes with occasional controlled exposure and laboratory work.

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

### Manufacture

This substance is used in the following activities or processes at workplace: closed processes with no likelihood of exposure, closed, continuous processes with occasional controlled exposure, closed batch processing in synthesis or formulation, transfer of chemicals at dedicated facilities, transfer of substance into small containers, potentially closed industrial processing with minerals/metals at elevated temperature (e.g. smelters, furnaces, refineries, coke ovens), high energy work-up of substances bound in materials or articles (e.g. hot rolling/forming, grinding, mechanical cutting, drilling or sanding) and open transfer and processing with minerals/metals at elevated temperature.

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

- Bruchsaler Farbenfabrik GmbH & Co. KG, Talstrasse 37 76646 Bruchsal Baden-Württemberg Germany
- DCC Maastricht B.V. OR, Sortileweg 39 6219 NT Maastricht Netherlands
- Ferro Performance Pigments Spain,S.L., Vitoria 19 01400 Llodio Alaba Spain
- Habich GmbH, Weiteneegg 5 A-3652 Leiben Austria
- Heubach GmbH, Heubachstr. 7 38685 Langelsheim Niedersachsen Germany
- Poliversal, Av. Fontes Pereira de Melo, 31, 2º A 1050-117 Lisboa Portugal
- REACH ChemAdvice GmbH, Am Marktplatz 5 65779 Kelkheim (Taunus) Germany

### Inactive

- BASF Pigment GmbH, Carl-Bosch Str. 38 67056 Ludwigshafen am Rhein Rheinland-Pfalz Germany

## Other names

### IUPAC names

- -
- C.I. Pigment Yellow 34
- chromic acid, lead (+2) salt
- Lead Sulfochromate Yellow
- Lead Sulfochromate yellow 1344-37-2
- lead sulfochromate yellow, C.I. Pigment Yellow 34; [This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.]
- lead sulphochromate yellow
- lead(2+) ion dioxochromiumbis(olate)
- LEAD-SULFOCHROMATE-YELLOW-
- PIGMENT YELLOW 34
- [This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.]

### Regulatory processes names

- C.I. Pigment Yellow 34 (This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.)
- Lead sulfochromate yellow
- Lead sulfochromate yellow (-)
- Lead sulfochromate yellow (C.I. Pigment Yellow 34) (-)
- lead sulfochromate yellow (This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.)
- [This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.] (This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.)

## Trade names

- Bleisulfchromatgelb
- BRUFASOL Yellow 16015
- BRUFASOL Yellow 16017
- BRUFASOL Yellow 16018
- BRUFASOL Yellow 16019
- BRUFASOL Yellow 1727M
- BRUFASOL Yellow 311M
- BRUFASOL Yellow 311MS
- BRUFASOL Yellow 4711 MS
- BRUFASOL Yellow 835 M
- BRUFASOL Yellow 83S3
- BRUFASOL Yellow 860 M
- BRUFASOL Yellow 86S5
- C 103
- C 103 (pigment)
- C.I. 77600
- C.I. 77603
- C.I. Pigment Yellow 34 (9CI)
- C.P. Chrome Yellow Light 1066
- C.P. Chrome Yellow Light 1074
- C.P. Chrome Yellow Medium 1074
- C.P. Chrome Yellow Medium 1085
- C.P. Chrome Yellow Medium 1298
- Chromastral Green HM
- Chromastral Green M
- Chromastral Green Y
- Chrome Fast Green C.P.
- Chrome orange
- Chrome yellow
- Chrome Yellow 10G
- Chrome Yellow 4G
- Chrome Yellow 4GL Light
- Chrome Yellow 500LSG
- Chrome Yellow 5G
- Chrome Yellow 5GF
- Chrome Yellow 62E
- Chrome Yellow 6GL Primrose
- Chrome Yellow A 241
- Chrome Yellow G
- Chrome Yellow GL Medium
- Chrome Yellow Lemon
- Chrome Yellow LF AA
- Chrome yellow light
- Chrome Yellow Light Y 434D
- Chrome yellow medium
- Chrome Yellow Medium Y 469D
- Chrome yellow middle
- Chrome Yellow NEO 5GS
- Chrome Yellow Pigment GMN 35
- Chrome Yellow Primrose
- Chromium yellow
- Dainichi Chrome Yellow 10G
- Dainichi Chrome Yellow 5G
- Dark chrome yellow
- DCC Krolor Yellow KY 781
- DCC Krolor Yellow KY 787
- DCC Krolor Yellow KY 788
- DCC Krolor Yellow KY 795
- DCC Krolor Yellow KY 895
- DCC Yellow 1000
- DCC Yellow 1002
- DCC Yellow 1003
- DCC Yellow 1004
- DCC Yellow 1009
- DCC Yellow 1012
- DCC Yellow 1013
- DCC Yellow 1014
- DCC Yellow 1016
- DCC Yellow 1018
- DCC Yellow 1019
- DCC Yellow 1025
- DCC Yellow 1026
- DCC Yellow 1027
- DCC Yellow 1028
- DCC Yellow 1031
- DCC Yellow 1032
- DCC Yellow 1034
- DCC Yellow 1036
- DCC Yellow 1037
- DCC Yellow 1077
- DCC Yellow 1080
- DCC Yellow 1091
- DCC Yellow 2603
- DCC Yellow 2603R
- DCC Yellow 4019
- DCC Yellow 4020
- DCC Yellow 4034
- DCC Yellow 5003
- DCC Yellow 5012
- DCC Yellow 5020
- DCC Yellow 5021
- DCC Yellow 5022
- DCC Yellow 5026
- DCC Yellow 5035
- DCC Yellow 5036
- DCC Yellow 5037
- DCC Yellow 9160
- DCC Yellow 9259
- DCC Yellow Y 935
- DCC Yellow Y 936
- DCC Yellow Y-933-LD
- DCC Yellow Y-934-LD
- DCC Yellow Y-958-LD
- DCC Yellow Y-969-LD
- Duromineral® Gelb
- Duromineral® Yellow
- Dynatarn Yellow 34
- HEUCOTRON T-Yellow 8064
- HEUCOTRON T-Yellow 8064K
- HEUCOTRON T-Yellow 8070
- Krolor Yellow KY 788D
- KZ11 2
- KZ11 3
- Lead sulfchromate yellow
- Lemon Chrome A 3G
- Lemon Chrome C 4G
- Light chrome yellow
- Medium chrome yellow
- Middle chrome
- Middle Chrome BHG
- Pigment Yellow 34
- Primrose chrome
- Primrose yellow

- Pure Lemon Chrome 24882
- Pure Lemon Chrome 36N
- Pure Lemon Chrome HL 3G
- Pure Lemon Chrome L 3G
- Pure Lemon Chrome L 3GS
- Pure Middle Chrome 24883
- Pure Middle Chrome LG
- Pure Primrose Chrome 24880
- Pure Primrose Chrome 24881
- Pure Primrose Chrome L 10G
- Pure Primrose Chrome L 6G
- Renol Chrome Yellow Y 2G
- Renol Chrome Yellow Y 2RS
- Resino Yellow NSR 107
- RW34S
- RW37C
- RW37D
- RW37G
- RW37H
- RW37U
- RW38D
- RW38F
- RW38H
- RW38S
- Supra Lemon Chrome 4G
- Supra Lemon Chrome H 4G
- Supra Middle Chrome G
- Supra Primrose Chrome 6G
- Vynamon Yellow 6GN
- Vynamon Yellow CRN

#### Other names

- C.I. Pigment Yellow 34

## 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	2 studies submitted 2 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> Physical state at 20°C and 1013 hPa Solid (100%) [2]		Studies with data <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Key study 2	Data waiving <input checked="" type="checkbox"/> No data available no waivers	
<input checked="" type="checkbox"/> Form Powder (100%) [2]				
<input checked="" type="checkbox"/> Odour Odourless (100%) [2]				
<input checked="" type="checkbox"/> Substance type Other (100%) [2]				

#### Melting/freezing point

Study results	2 studies submitted 2 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> Melting / freezing point 800 °C [2]		Studies with data <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Key study 2	Data waiving <input checked="" type="checkbox"/> No data available no waivers	

#### Boiling point

Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Other 2	Data waiving <input checked="" type="checkbox"/> No data available	

#### Density

Study results	4 studies submitted 2 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> Density 6 g/cm³ [2]		Studies with data <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Key study 2 Supporting study 2	Data waiving <input checked="" type="checkbox"/> No data available no waivers	

#### Vapour pressure

Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Other 2	Data waiving <input checked="" type="checkbox"/> No data available	

<b>Partition coefficient</b>				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input checked="" type="checkbox"/> No data available Other: 2	
<b>Water solubility</b>				
Study results	3 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> Water solubility (mass/vol.) 3 - 500 µg/L @ 22 °C and pH 6 - 8 [7]		Studies with data: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Key study: 3	Data waiving: <input checked="" type="checkbox"/> No data available no waivers	
<input checked="" type="checkbox"/> Solubility in organic solvents / fat solubility <input checked="" type="checkbox"/> Data not provided by the registrant				
<b>Surface tension</b>				
Study results	3 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input checked="" type="checkbox"/> No data available Other: 3	
<b>Flash point</b>				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input checked="" type="checkbox"/> No data available Sci. unjustified: 2 Other: 1	
<b>Auto flammability</b>				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input checked="" type="checkbox"/> No data available Other: 2	
<b>Flammability</b>				
Study results	1 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Supporting study: 2	Data waiving: <input checked="" type="checkbox"/> No data available Sci. unjustified: 2	
<b>Explosiveness</b>				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input checked="" type="checkbox"/> No data available Sci. unjustified: 1 Other: 1	
<b>Oxidising</b>				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input checked="" type="checkbox"/> No automatically processable data submitted		Studies with data: <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Key study: 1	Data waiving: <input checked="" type="checkbox"/> No data available Other: 1	
<input checked="" type="checkbox"/> Oxidation reduction potential <input checked="" type="checkbox"/> Data not provided by the registrant				
<input checked="" type="checkbox"/> pH <input checked="" type="checkbox"/> Data not provided by the registrant				



Dissociation constant				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input type="checkbox"/> No automatically processable data submitted		Studies with data: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input type="checkbox"/> No data available Sci. unjustified: 2	

Viscosity				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input type="checkbox"/> No automatically processable data submitted		Studies with data: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input type="checkbox"/> No data available Not feasible: 2	

### Environmental fate and pathways

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Phototransformation in air				
				<input type="checkbox"/> Data not provided by the registrant

Hydrolysis				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input type="checkbox"/> Study data not processed for brief profile		Studies with data: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input type="checkbox"/> No data available Sci. unjustified: 2	

Phototransformation in water				
				<input type="checkbox"/> Data not provided by the registrant

Phototransformation in soil				
				<input type="checkbox"/> Data not provided by the registrant

Biodegradation in water - screening tests				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input type="checkbox"/> No automatically processable data submitted		Studies with data: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input type="checkbox"/> No data available Not feasible: 2	

Biodegradation in water & sediment - simulation tests				
				<input type="checkbox"/> Data not provided by the registrant

Biodegradation in soil				
Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input type="checkbox"/> Study data not processed for brief profile		Studies with data: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Data waiving: <input type="checkbox"/> No data available Not feasible: 2	

Bioaccumulation: aquatic / sediment				
Study results	10 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input type="checkbox"/> Study data not processed for brief profile		Studies with data: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Key study: 3 Supporting study: 4 Other: 3	Data waiving: no waivers <input type="checkbox"/> No data available	

Bioaccumulation: terrestrial				
				<input type="checkbox"/> Data not provided by the registrant

Adsorption/desorption				
Study results	8 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
<input type="checkbox"/> No automatically processable data submitted		Studies with data: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Key study: 4 Other: 4	Data waiving: no waivers <input type="checkbox"/> No data available	

Henry's law constant (H)				
				<input type="checkbox"/> Data not provided by the registrant

Distribution modelling				
				<input type="checkbox"/> 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

4 summaries submitted  
4 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

Freshwater	2.7 - 100 µg/L (4)
Intermittent releases (freshwater)	2.7 - 1 000 µg/L (4)
Marine water	270 - 10 000 ng/L (4)
Intermittent releases (marine water)	-
Sewage treatment plant (STP)	100 - 1 000 000 µg/L (3)
Sediment (freshwater)	700 - 174 000 µg/kg sediment dw (2)
Sediment (marine water)	700 - 17 400 µg/kg sediment dw (2)

#### Hazard for Air

Air No hazard identified (3)

#### Hazard for Terrestrial Organism

Soil 35 - 166 000 µg/kg soil dw (2)

#### Hazard for Predators

Secondary poisoning 500 - 17 000 µg/kg food (2)

### Short-term toxicity to fish

Study results 3 studies submitted  
3 studies processed

#### Type of Study provided

Summaries

0 summaries submitted  
0 summaries processed

[P/R] Results

LC50 (4 days) 100 - 10 000 mg/L [3]  
NOEC (4 days) 100 - 10 000 mg/L [3]

Studies with data

Δ    

Data waiving

Δ No data available

Key study

3

no waivers

### Long-term toxicity to fish

Study results 3 studies submitted  
1 study processed

#### Type of Study provided

Summaries

0 summaries submitted  
0 summaries processed

[P/R] Results

NOEC (1.29 years) 1 - 3.95 mg/L [3]  
NOEC (60 days) 1 mg/L [2]

Studies with data

Δ    

Data waiving

Δ No data available

Key study

3

no waivers

### Short-term toxicity to aquatic invertebrates

Study results 2 studies submitted  
2 studies processed

#### Type of Study provided

Summaries

0 summaries submitted  
0 summaries processed

[P/R] Results

EC50 (48 h) 100 mg/L [2]  
EC0 (48 h) 100 mg/L [2]

Studies with data

Δ    

Data waiving

Δ No data available

Key study

2

no waivers

### Long-term toxicity to aquatic invertebrates

Study results 3 studies submitted  
3 studies processed

#### Type of Study provided

Summaries

0 summaries submitted  
0 summaries processed

[P/R] Results

NOEC (21 days) 700 µg/L [1]  
LC50 (21 days) 300 - 2 000 µg/L [4]

Studies with data

Δ    

Data waiving

Δ No data available

Key study

3

no waivers

### Toxicity to aquatic algae and cyanobacteria

Study results 4 studies submitted  
2 studies processed

#### Type of Study provided

Summaries

0 summaries submitted  
0 summaries processed

[P/R] Results

EC50 (72 h) 100 mg/L [2]  
NOEC (72 h) 100 mg/L [2]  
EC10 (72 h) 100 mg/L [2]

Studies with data

Δ    

Data waiving

Δ No data available

Key study

2

no waivers

Supporting study

2

### Toxicity to aquatic plants other than algae

Δ Data not provided by the registrant

### Toxicity to microorganisms

Study results 4 studies submitted  
4 studies processed

#### Type of Study provided

Summaries

0 summaries submitted  
0 summaries processed

[P/R] Results

EC50 (30 min) 10 g/L [4]  
EC10 (30 min) 10 g/L [4]

Studies with data

Δ    

Data waiving

Δ No data available

Weight of evidence

4

no waivers

Sediment toxicity		Summaries	
Study results	4 studies submitted 2 studies processed		0 summaries submitted 0 summaries processed

X	<b>[P/R] Results</b> LC50 (28 days) 19 - 28 mg/L [4] LC50 (10 days) 48 - 65 mg/L [4]	Type of Study provided		Data waiving no waivers	No data available
		Studies with data	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
		Key study	4		

#### Endocrine disruptor testing in aquatic vertebrates - in vivo

Δ Data not provided by the registrant

#### Toxicity to terrestrial macroorganisms except arthropods

Study results	3 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
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X	No automatically processable data submitted	Type of Study provided		Data waiving no waivers	No data available
		Studies with data	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
		Key study	3		

#### Toxicity to terrestrial arthropods

Study results	3 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
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X	No automatically processable data submitted	Type of Study provided		Data waiving no waivers	No data available
		Studies with data	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
		Key study	3		

#### Toxicity to terrestrial plants

Study results	4 studies submitted 1 study processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
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X	<b>[P/R] Results</b> NOEC (14 days) 350 - 3 500 µg/kg soil dw [2] EC50 (14 days) 1.8 - 7.4 mg/kg soil dw [3]	Type of Study provided		Data waiving no waivers	No data available
		Studies with data	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
		Key study	3		
		Supporting study	1		

#### Toxicity to soil microorganisms

Study results	3 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
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X	No automatically processable data submitted	Type of Study provided		Data waiving no waivers	No data available
		Studies with data	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
		Key study	3		

#### Toxicity to birds

Study results	2 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed
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X	No automatically processable data submitted	Type of Study provided		Data waiving Other	No data available
		Studies with data	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		
		Key study	2		

#### Toxicity to mammals

Δ 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		
		2 summaries submitted 2 summaries processed
<p>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.</p>		
Data for WORKERS		
INHALATION Exposure	Threshold	Most sensitive study
Long-term:	(DMEL) 66.7 ng/m³	carcinogenicity
Acute /short term:	No hazard identified	
Long-term:	High hazard (no threshold derived)	
Acute /short term:	No hazard identified	
DERMAL Exposure	Threshold	Most sensitive study
Long-term:	(DMEL) 5 mg/kg bw/day	developmental toxicity / teratogenicity
Acute /short term:	No hazard identified	
Long-term:	Medium hazard (no threshold derived)	
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: basic toxicokinetics	⚠ No data available						
⚠ Study data not processed for brief profile	<table border="1"> <thead> <tr> <th>Studies with data</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td>Key study 7</td> <td>no waivers</td> </tr> <tr> <td>Other 2</td> <td></td> </tr> </tbody> </table>	Studies with data	Data waiving	Key study 7	no waivers	Other 2		
Studies with data	Data waiving							
Key study 7	no waivers							
Other 2								
	Study data: dermal absorption							
⚠ Study data not processed for brief profile	<table border="1"> <thead> <tr> <th>Studies with data</th> <th>Data waiving</th> </tr> </thead> <tbody> <tr> <td></td> <td>no waivers</td> </tr> </tbody> </table>	Studies with data	Data waiving		no waivers			
Studies with data	Data waiving							
	no waivers							

Acute toxicity		Summaries	
Study results	Type of Study provided	0 summaries submitted 0 summaries processed	
oral	4 studies submitted 4 studies processed	No data available	
<b>P/R</b> Results LD50 10 000 mg/kg bw (rat) [4]	Studies with data: 4 Key study: 4	Data waiving no waivers	
inhalation	2 studies submitted 0 studies processed	No automatically processable data submitted	
	Studies with data: 2 Key study: 2	Data waiving Sci. unjustified	
dermal	2 studies submitted 0 studies processed	No automatically processable data submitted	
	Studies with data: 2 Key study: 2	Data waiving Sci. unjustified	
other routes	0 studies submitted 0 studies processed	No data available	
	Studies with data: 0 Key study: 0	Data waiving no waivers	

Irritation / corrosion		Summaries	
Study results	Type of Study provided	0 summaries submitted 0 summaries processed	
Study data: skin		No data available	
Study data not processed for brief profile	Studies with data: 2 Key study: 2	Data waiving no waivers	
Study data: eye		No data available	
Study data not processed for brief profile	Studies with data: 4 Key study: 4	Data waiving no waivers	

Sensitisation		Summaries	
Study results	Type of Study provided	0 summaries submitted 0 summaries processed	
Study data: skin		No data available	
Study data not processed for brief profile	Studies with data: 1 Key study: 1	Data waiving Sci. unjustified	
Study data: respiratory		No data available	
Study data not processed for brief profile	Studies with data: 1 Key study: 1	Data waiving no waivers	

## Repeated dose toxicity

Study results

Type of Study provided

Summaries

0 summaries submitted  
0 summaries processed

Study data: oral

⚠ No data available

⚠ No automatically processable data submitted

Studies with data

⚠ 📄 📊 📋

Data waiving

no waivers

Key study

4

Supporting study

4

Study data: Inhalation

⚠ No data available

Studies with data

⚠ 📄 📊 📋

Data waiving

no waivers

Study data: dermal

⚠ No data available

Studies with data

⚠ 📄 📊 📋

Data waiving

no waivers

## Genetic toxicity

Study results	Type of Study provided	Summaries																		
		3 summaries submitted 0 summaries processed																		
	Study data: in vitro	No data available																		
Study data not processed for brief profile	<table><tr><td>Studies with data</td><td></td><td></td><td></td><td></td><td>Data waiving</td></tr><tr><td>Key study</td><td>6</td><td></td><td></td><td></td><td>no waivers</td></tr><tr><td>Other</td><td>12</td><td></td><td></td><td></td><td></td></tr></table>	Studies with data					Data waiving	Key study	6				no waivers	Other	12					
Studies with data					Data waiving															
Key study	6				no waivers															
Other	12																			
	Study data: in vivo																			
Study data not processed for brief profile	<table><tr><td>Studies with data</td><td></td><td></td><td></td><td></td><td>Data waiving</td></tr><tr><td>Key study</td><td>2</td><td></td><td></td><td></td><td>no waivers</td></tr></table>	Studies with data					Data waiving	Key study	2				no waivers							
Studies with data					Data waiving															
Key study	2				no waivers															

## Carcinogenicity

Study results	12 studies submitted 0 studies processed	Type of Study provided	Summaries	0 summaries submitted 0 summaries processed																							
⚠ Study data not processed for brief profile		<table><tr><td>Studies with data</td><td></td><td></td><td></td><td></td></tr><tr><td>Key study</td><td>4</td><td></td><td></td><td>2</td></tr><tr><td>Supporting study</td><td>2</td><td></td><td></td><td>2</td></tr><tr><td>Other</td><td>2</td><td></td><td></td><td></td></tr></table>	Studies with data					Key study	4			2	Supporting study	2			2	Other	2				<table><tr><td>Data waiving</td><td>⚠ No data available</td></tr><tr><td>no waivers</td><td></td></tr></table>	Data waiving	⚠ No data available	no waivers	
Studies with data																											
Key study	4			2																							
Supporting study	2			2																							
Other	2																										
Data waiving	⚠ No data available																										
no waivers																											